

Iowa DNR - Underground Storage Tank Section

Chapter 135 Proposed Rule Changes - Itemized

Feb 20, 2018

ITEM 1. Rescind 135.1(3)"a" and adopt the following new paragraph in lieu thereof:

a. The requirements of this chapter apply to all owners and operators of a UST system as defined in 135.2(455B) except as otherwise provided in paragraphs "b," and "c" of this subrule.

(1) Previously deferred UST systems. Airport hydrant fuel distribution systems, UST systems with field-constructed tanks, and UST systems that store fuel solely for use by emergency power generators must meet the requirements of these rules as follows:

1. Airport hydrant fuel distribution systems and UST systems with field-constructed tanks must meet the requirements in 567-135.21(455B).

2. UST systems that store fuel solely for use by emergency power generators installed on or before [effective date of rules] must meet the requirements in 567-135.5(455B) by [3 years after effective date of rules].

3. UST systems that store fuel solely for use by emergency power generators must meet all applicable requirements of this chapter at installation.

(2) Any UST system listed in paragraph "c" of this subrule must meet the requirements of 135.1(4).

ITEM 2. Amend 135.1(3)"b" first paragraph as follows:

b. Exclusions. The following UST systems are excluded from the requirements of this chapter:

ITEM 3. Rescind subparagraphs (4) and (5) in 135.1(3)"c" and adopt the following new paragraph (4) in lieu thereof:

(4) Aboveground storage tanks associated with:

1. Airport hydrant fuel distribution systems regulated under 567-135.21; and

2. UST systems with field-constructed tanks regulated under 567-135.21;

ITEM 4. Rescind paragraph 135.1(3)"d" and reletter the following paragraph.

ITEM 5. Amend **135.1(4)** by changing the title to "*Installation requirements for partially excluded UST systems*" and amend paragraph "a" as follows:

a. ~~No person may~~ Owners and operators must install a UST system listed in 135.1(3)"c" ~~for the purpose of storing regulated substances unless the system (whether single or double wall construction) and meets the following requirements:~~

(1) Will prevent releases due to corrosion or structural failure for the operational life of the UST system;

(2) Is cathodically protected against corrosion, constructed of ~~noncorrodible~~ non-corrodible material, steel clad with a ~~noncorrodible~~ non-corrodible material, or designed in a manner to prevent the release or threatened release of any stored substance; and

(3) Is constructed or lined with material that is compatible with the stored substance.

ITEM 6. Rescind 'Note' in 135.1(4) and adopt the following new 'Note' in lieu thereof:

NOTE: The following codes of practice may be used as guidance for complying with this section:

- NACE International Standard RP -02-85, "Practice SP 0285, "External Corrosion Control of Underground Storage Tank Systems by Cathodic Protection";

- NACE International Standard Practice SP 0169, "Control of External Corrosion on Metallic

Buried, Partially Buried, Underground or Submerged Metallic Piping Systems”;

- American Petroleum Institute Recommended Practice 1632, “Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems”; or
- Steel Tank Institute Recommended Practice R892, “Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems”.

ITEM 7. Add the following definition of “airport hydrant fuel distribution system”:

“*Airport hydrant fuel distribution system*” (also called airport hydrant system) means an UST system which fuels aircraft and operates under high pressure with large diameter piping that typically terminates into one or more hydrants (fill stands). The airport hydrant system begins where fuel enters one or more tanks from an external source such as a pipeline, barge, rail car, or other motor fuel carrier.

ITEM 8. Amend the definition of “*Asbestos-cement pipe*” as follows:

“*Asbestos-cement pipe*” (AC refers to asbestos-cement) means a pipe or conduit constructed of asbestos fiber, and Portland cement, ~~and water~~, which can be used to transport water.

ITEM 9. Amend the definition of “CERCLA” as follows:

“*CERCLA*” means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended.

ITEM 10. Amend the definition of “Chemicals of Concern” as follows:

“Chemicals of concern” means the compounds derived from petroleum-regulated substances which are subject to evaluation for purposes of applying risk-based corrective action decision making. These compounds are benzene, ethylbenzene, toluene, and xylenes (BTEX) and naphthalene, benzo(a)pyrene, benz(a)anthracene, and chrysene. (NOTE: ~~Measurement of~~ Concentration values for these last four constituents ~~may be done~~ are determined by a conversion method from total extractable hydrocarbons, see subrule 135.8(3).)

ITEM 11. Rescind the definition of “*Class A operator*” and adopt the following new definition in lieu thereof:

“*Class A operator*” means the individual who has primary responsibility to operate and maintain the UST system in accordance with applicable requirements. The Class A operator typically manages resources and personnel, such as establishing work assignments, to achieve and maintain compliance with regulatory requirements under this chapter.

ITEM 12. Rescind the definition of “*Class B operator*” and adopt the following new definition in lieu thereof:

“*Class B operator*” means the individual who has day-to-day responsibility for implementing applicable regulatory requirements established by the department. The Class B operator typically implements in-field aspects of operation, maintenance, and associated recordkeeping for the UST systems.

ITEM 13. Rescind definition of “Class C operator” and adopt the following new definition in lieu thereof:

“*Class C operator*” means the individual responsible for initially addressing emergencies presented by a spill or release from an UST system. The Class C operator typically controls or monitors the dispensing or sale of regulated substances.

ITEM 14. Adopt the following definition for “*Containment Sump*”:

“*Containment Sump*” means a liquid-tight container that protects the environment by containing leaks and spills of regulated substances from piping, dispensers, pumps and related components in the containment area. Containment sumps may be single walled or secondarily contained and located at the top of tank (tank top or submersible turbine pump sump), underneath the dispenser (under-dispenser containment sump), or at other points in the piping run (transition or intermediate sump).

ITEM 15. Rescind the definition of “*Dispenser*” and adopt the following new definition in lieu thereof:

“*Dispenser*” means equipment located aboveground that dispenses regulated substances from the UST system.

ITEM 16. Adopt the following definition for “*Dispenser system*”:

“*Dispenser system*” means the dispenser and the equipment necessary to connect the dispenser to the underground storage tank system.

ITEM 17. Amend the definition of “*Drinking water well*” as follows:

“*Drinking water well*” means any groundwater well used as a source for drinking water by humans and groundwater wells used primarily for the final production of food or medicine for human consumption ~~in facilities routinely characterized with Standard Industrial Codes (AIC) group 283 for drugs and 20 for foods.~~

ITEM 18. Adopt the definition of “*Ethanol*” as follows:

“*Ethanol*” refers to ethyl alcohol used as an additive to petroleum fuels, commonly made from biomass such as corn or sugar. It is generally mixed with gasoline at a concentration of approximately 10%, although some UST systems offer it at concentrations up to 85% (E85).

ITEM 19. Adopt the following definition of “*field-constructed tank*”:

“*Field constructed tank*” means a tank constructed in the field. For example, a tank constructed of concrete that is poured in the field, or a steel or fiberglass tank primarily fabricated in the field is considered field-constructed.

ITEM 20. Amend the definition of “*Free product*” as follows:

“*Free product*” refers to a regulated substance that is present as a light nonaqueous phase liquid (e.g., liquid not dissolved in water).

ITEM 21. Amend the definition of “*Hydraulic conductivity*” by adding (K) after “Hydraulic conductivity”.

ITEM 22. Adopt the definition for “*Light, nonaqueous-phase liquid*” as follows:

“*Light, nonaqueous-phase liquid (LNAPL)* refers to an organic compound that is immiscible with, and lighter than water (e.g., crude oil, gasoline, diesel fuel, heating oil).

ITEM 23. Amend the definition of “Motor oil” as follows:

“*Motor fuel*” means ~~petroleum or a petroleum-based substance~~ a complex blend of hydrocarbons typically used in the operation of a motor engine, such as motor gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel, or any blend containing one or more of these substances (for example: motor gasoline blended with alcohol)grade of gasohol, and is typically used in the operation of a motor engine.

ITEM 24. Adopt a definition of “*Over-excavation*” as follows:

“*Over-excavation*” refers to the excavation of subsurface materials outside the excavation zone for the purpose of removing contaminated substances.

ITEM 25. Amend the definition of “Owner” by making the following correction in the un-numbered paragraph:

~~“Owner”~~(Owner does not include a person or institution, who, without participating in the management or operation of the underground storage tank or the tank site, holds indicia of ownership primarily to protect that person’s security interest in the underground storage tank or the tank site property, prior to obtaining ownership or control through debt enforcement, debt settlement, or otherwise)

ITEM 26. Amend the definition of “*Pipe*” or “*piping*” as follows:

“*Pipe*” or “*piping*” means a hollow cylinder or tubular conduit that is constructed of nonearthen materials and that routinely contains and conveys regulated substances ~~from the underground tank(s) to the dispenser(s) or other end use equipment. Such piping includes any elbows, couplings, unions, valves, or other in-line fixtures that contain and convey regulated substances from the underground tank(s) to the dispenser(s). This definition does not include vent, vapor recovery or fill lines.~~

ITEM 27. Amend the definition of “Regulated substance” by changing paragraph “4” as follows:

4. Petroleum, including crude oil or any fraction thereof that is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute). The term “regulated substance” includes but is not limited to petroleum and petroleum-based substances comprised of a complex blend of hydrocarbons ~~derived from crude oil through the processes of separation, conversion, upgrading, and finishing,~~ such as motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.

ITEM 28. Amend the definition of “*Release detection*” as follows:

“*Release detection*” means determining whether a release of a regulated substance has occurred from the UST system into the environment or a leak has occurred into the interstitial space between the UST system and its secondary barrier or secondary containment around it.

ITEM 29. Rescind and adopt the new definition of “*Repair*” as:

“*Repair*” means to restore to proper operating condition a tank, pipe, spill prevention equipment, overfill prevention equipment, corrosion protection equipment, release detection equipment or other UST system component that has caused a release of product from the UST system or has failed to function properly.

ITEM 30. Amend the definition of “Replace” or “replacement” as follows”

“Replace” or “replacement” means the installation of a new underground tank system or component, including dispensers, in substantially the same location as an existing tank system or component ~~in lieu of that tank system or component.~~

ITEM 31. Adopt the definition of “Replaced” as follows:

“Replaced” means:

- (a) For a tank - to remove a tank and install another tank.
- (b) For piping - to remove 50 percent or more of piping and install other piping, excluding connectors, connected to a single tank. For tanks with multiple piping runs, this definition applies independently to each piping run.

ITEM 32. Rescind the definition of “Secondary containment” or “Secondarily containment piping” and adopt the following:

“Secondary containment” or “Secondarily contained” means a release prevention and release detection system for a tank or piping. This system has an inner and outer barrier with an interstitial space monitored for leaks. This term includes containment sumps when used for interstitial monitoring of piping.

ITEM 33. Amend the definition of “Site assessment investigation” by replacing “registered” with “certified” in the first sentence.**ITEM 34.** Adopt a definition for “Temporary closed tank” as follows:

“Temporary closed tank” means a regulated tank that has been inactive for 3 months or more.

ITEM 35. Amend the definition of “Tier 2 site assessment” as follows:

“Tier 2 site assessment” means the process of assessing risk to actual and potential receptors by using site-specific contaminant concentrations field data and designated Tier 2 exposure and fate and transport models to determine the applicable target level(s).

ITEM 36. Adopt a definition of “Training program” as follows:

“Training program” means any program that provides information to and evaluates the knowledge of a Class A, Class B, or Class C operator through testing, practical demonstration, or another approach acceptable to the Iowa DNR regarding requirements for UST systems that meet the requirements of 567-135.4(6) through (12).

ITEM 37. Amend the definition of “Under-dispenser containment” as follows:

“Under-dispenser containment (UDC)” means containment underneath a dispenser system designed to that will prevent leaks from the dispenser and piping within or above the UDC from reaching soil or groundwater. Such containment must:

- Be intact and liquid-tight on its sides and bottom and at any penetrations;
- Be compatible with the substance conveyed by the piping; and
- Allow for visual inspection, monitoring and access to the components in the containment system.

ITEM 38. Amend the definition of “Underground storage tank” by replacing paragraph “d” with the following:

- d. Pipeline facility (including gathering lines):

- (1) Which is regulated under chapter 601 of Title 49 CFR, or
- (2) Which is an intrastate pipeline facility regulated under state laws as provided in chapter 601 Title 49 CFR and which is determined by the Secretary of Transportation to be connected to a pipeline, or to be operated or intended to be capable of operating at pipeline pressure or as an integral part of a pipeline;

ITEM 39. Adopt the following definition of “UST Professional”:

“*UST Professional*” is an individual licensed by the Iowa Department of Natural Resources under IAC--Chapter 134. The licensing program includes underground storage tank system installation, installation inspection, UST system testing, tank lining, cathodic protection installation/inspection, remover and inspecting for UST system operational compliance. The license issued will list the type of work the individual is licensed to perform.

ITEM 40. Amend the description for subrule 135.3(1) and paragraph “a” as follows:

135.3(1) Performance standards for new UST systems. In order to prevent releases due to structural failure, corrosion, or spills and overfills for as long as the UST system is used to store regulated substances, all owners and operators of new UST systems must meet the following requirements. The UST system must be secondarily contained and the containment must be able to contain regulated substances leaked until they are detected and removed and prevent the release of regulated substances to the environment at any time during the operational life of the UST system. For cases where the piping is considered to be replaced, the entire piping run must be secondarily contained.

a. Tanks. Each tank must have secondary containment and use interstitial monitoring, be properly designed and constructed, and any portion underground that routinely contains product must be protected from corrosion, in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory as specified below:

- (1) The tank is constructed of fiberglass-reinforced plastic; or

NOTE: The following ~~industry~~ codes of practice may be used to comply with 135.3(1)“a”(1): Underwriters Laboratories Standard 1316, “Standard for Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products Alcohols, and Alcohol-Gasoline Mixtures”; and Underwriters Laboratories of Canada ~~CAN4-S615-M83~~, “Standard for Reinforced Plastic Underground Tanks for Flammable and Combustible Liquids Petroleum Products”; or American Society of Testing and Materials Standard ~~D4021-86~~, “Standard Specification for Glass-Fiber Reinforced Polyester Underground Petroleum Storage Tanks.”

- (2) The tank is constructed of steel and cathodically protected in the following manner:

1. The tank is coated with a suitable dielectric material;
2. Field-installed cathodic protection systems are designed by a corrosion expert;
3. Impressed current systems are designed to allow determination of current operating status as required in 135.4(2)“c”. This shall be accomplished by providing the rectifier with ampere and voltage meters that can be read by the owner and operator for comparison to the design standard set by the corrosion expert or a device that can warn the owner and operator when changes in ampere and voltage occurs outside the design standard set by the corrosion expert; and
4. Cathodic protection systems are operated and maintained in accordance with 135.4(2) or according to guidelines established by the department; ~~or and~~
5. Impressed current systems must be designed not to cause stray current that can damage other underground structures (i.e. metal electrical conduits, water lines, gas lines, etc.); and;
6. Local utilities must be contacted when impressed current systems are installed or changes made to the system, including an increase to amp or voltage rectifier output; or

NOTE: The following codes of practice may be used to comply with 135.3(1)“a”(2):

- Steel Tank Institute “Specification STI-P3 ® Specification and Manual for External Corrosion Protection of Underground Steel Storage Tanks”;
- Underwriters Laboratories Standard 1746, “External Corrosion Protection Systems for Steel Underground Storage Tanks”;
- Underwriters Laboratories of Canada S603, “Standard for Steel Underground Tanks for Flammable and Combustible Liquids,” and GO3.1, “Standard for External Corrosion Protection Systems for Steel Underground Tanks for Flammable and Combustible Liquids,” and S631, “Standard for Isolating Bushings for Steel Underground Tanks Protected with External Corrosion Protection Systems”;
- NACE International Standard Practice SP 0285, “External Corrosion Control of Underground Storage Systems,”
- Underwriters Laboratories Standard 58, “Standard for Steel Underground Tanks for Flammable and Combustible Liquids.”
- Steel Tank Institute Standard F841, “Standard for Dual Wall Underground Steel Storage Tanks”;

~~NOTE: The following codes and standards may be used to comply with 135.3(1)“a”(2): Steel Tank Institute “Specification for STI-P3 System of External Corrosion Protection of Underground Steel Storage Tanks”; Underwriters Laboratories Standard 1746, “Corrosion Protection Systems for Underground Storage Tanks”; Underwriters Laboratories of Canada CAN4 S603-M85, “Standard for Steel Underground Tanks for Flammable and Combustible Liquids,” and CAN4-GO3.1-M85, “Standard for Galvanic Corrosion Protection Systems for Underground Tanks for Flammable and Combustible Liquids,” and CAN4-S631-M84, “Isolating Bushings for Steel Underground Tanks Protected with Coatings and Galvanic Systems”; or National Association of Corrosion Engineers Standard RP-02-85, “Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems,” and Underwriters Laboratories Standard 58, “Standard for Steel Underground Tanks for Flammable and Combustible Liquids.”~~

(3) The tank is constructed of a ~~steel-fiberglass-reinforced plastic composite~~ steel and clad or jacketed with a non-corrodible material; or

~~NOTE: The following industry codes may be used to comply with 135.3(1)“a”(3): Underwriters Laboratories Standard 1746, “Corrosion Protection Systems for Underground Storage Tanks,” or the Association for Composite Tanks ACT-100, “Specification for the Fabrication of FRP Clad Underground Storage Tanks.”~~

- ~~Underwriters Laboratories Standard 1746, “Corrosion Protection Systems for Underground Storage Tanks,”~~
- ~~Steel Tank Institute ACT-100® Specification F894, “Specification for External Corrosion Protection of FRP Underground Storage Tanks.”~~
- ~~Steel Tank Institute ACT-100-U® Specification F961, “Specification for External Corrosion Protection of Composite Steel Underground Storage Tanks”; or~~
- ~~Steel Tank Institute Specification F922, “Steel Tank Institute Specification for Permatank®”.~~

(4) The tank is constructed of metal without additional corrosion protection measures provided that:

1. The tank is installed at a site that is determined by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operating life. The corrosion expert must provide a time limit for the operational life of the tank for the site; and

2. Owners and operators maintain records that demonstrate compliance with the requirements of 135.3(1)“a”(4)“1” for the remaining life of the tank. ; or

(5) The tank construction and corrosion protection are determined by the department to be

designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than 135.3(1)“a”(1) to (4).

ITEM 41. Amend paragraph 135.3(1)“b” as follows:

b. Piping. The piping that routinely contains regulated substances and is in contact with the ground must be properly designed, constructed, and protected from corrosion in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory as specified ~~below~~ in this rule. This includes piping for remote tank fill locations.

All piping must have secondary containment, installed according to manufacturer's specifications and be compatible with the product stored and the environment to which it will be exposed. Piping must maintain its original specifications and structural integrity. Piping whose structural integrity has degraded must be replaced. All piping installations must meet National Fire Prevention Association 2000 Edition of NFPA 30 and 30A codes or the International Fire Code as adopted by the Iowa State Fire Marshal in 661- Chapter 51, Flammable and Combustible Liquids.

(1) The piping is constructed of a non-corrodible material ~~fiberglass-reinforced plastic~~; or

NOTE: The following codes ~~of practice and standards~~ may be used to comply with 135.3(1)“b”(1):

- Underwriters Laboratories Standard 971, “Nonmetallic Underground Piping for Flammable Liquids”;
- Underwriters Laboratories of Canada Standard S6660, “Standard for Nonmetallic Underground Piping for Flammable and Combustible Liquids.”

~~Underwriters Laboratories Subject 971, “UL Listed Non-Metal Pipe”; Underwriters Laboratories Standard 567, “Pipe Connectors for Flammable and Combustible and LP Gas”; Underwriters Laboratories of Canada Guide ULC 107, “Glass Fiber Reinforced Plastic Pipe and Fittings for Flammable Liquids”; and Underwriters Laboratories of Canada Standard CAN 4-S633-M81, “Flexible Underground Hose Connectors.”~~

(2) The piping is constructed of steel and cathodically protected in the following manner:

1. The piping is coated with a suitable dielectric material;
2. Field-installed cathodic protection systems are designed by a corrosion expert;
3. Impressed current systems are designed to allow determination of current operating status as required in 135.4(2)“c”; and
4. Cathodic protection systems are operated and maintained in accordance with 135.4(2) or guidelines established by the department; or

NOTE: The following codes and standards may be used to comply with 135.3(1)“b”(2): ~~National Fire Protection Association Standard 30, “Flammable and Combustible Liquids Code”; American Petroleum Institute Publication 1615, “Installation of Underground Petroleum Storage Systems”; American Petroleum Institute Publication 1632, “Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems”; and National Association of Corrosion Engineers Standard RP 01-69, “Control of External Corrosion on Submerged Metallic Piping Systems.”~~

• American Petroleum Institute Recommended Practice 1632, “Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems”; or

• Underwriters Laboratories Subject 971A, “Outline of Investigation for Metallic Underground Fuel Pipe”;

• National Fire Protection Association Standard 30, “Flammable and Combustible Liquids Code”;
 • NACE International Standard Practice SP 0169, “Control of External Corrosion on Underground or Submerged Metallic Piping Systems”

• Steel Tank Institute Recommended Practice R892, “Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems”;

- NACE International Standard Practice SP 0285, "External Corrosion Control of Underground Storage Tank Systems by Cathodic Protection".

(3) The piping is constructed of metal without additional corrosion protection measures provided that:

1. The piping is installed at a site that is determined by a corrosion expert to not be corrosive enough to cause it to have a release due to corrosion during its operating life. The corrosion expert must provide a time limit for the operational life of the piping for the site; and

2. Owners and operators maintain records that demonstrate compliance with the requirements of 135.3(1)"b"(3)"1" for the remaining life of the piping; or

~~NOTE: National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code"; and National Association of Corrosion Engineers Standard RP-01-69, "Control of External Corrosion on Submerged Metallic Piping Systems," may be used to comply with 135.3(1)"b"(3).~~

(4) The piping construction and corrosion protection are determined by the department to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than the requirements in 135.3(1)"b"(1) to (3).

ITEM 42. Amend paragraph 135.3(1)"c" as follows:

c. Spill and overfill prevention equipment.

(1) Except as provided in subparagraph (2), to prevent spilling and overfilling associated with product transfer to the UST system, owners and operators must use the following spill and overfill prevention equipment:

1. Spill prevention equipment that will prevent release of product to the environment when the transfer hose is detached from the fill pipe (for example, a spill catchment basin); and

2. Overfill prevention equipment that will:

- Automatically shut off flow into the tank when the tank is no more than 95 percent full; or
- Alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank (not allowed for suction product delivery systems, tanks with stage 1 vapor recovery or when product delivery is by pumping) or triggering a high-level alarm; or

- Restrict flow 30 minutes prior to overfilling, alert the transfer operator with a high-level alarm one minute before overfilling, or automatically shut off the flow into the tank so that none of the fittings located on top of the tank are exposed to product due to overfilling.

(2) Owners and operators are not required to use the spill and overfill prevention equipment specified in subparagraph (1) if:

1. Alternative equipment is used that is determined by the department to be no less protective of human health and the environment than the equipment specified in subparagraph (1)"1" or "2" of this paragraph; or

2. The UST system is filled by transfers of no more than 25 gallons at one time.

(3) Flow restrictors used in vent lines may not be used to comply with paragraph (c)(1)(2) of this section when overfill prevention is installed or replaced.

(4) Spill and overfill prevention equipment must be periodically tested or inspected in accordance with 567-135.4(12).

(5) Spill prevention equipment must be kept free of any liquid and debris. Any liquid or debris must be removed prior to product delivery.

ITEM 43. Amend paragraph 135.3(1)"d" as follows:

d. Installation. ~~All tanks and piping~~ The UST system must be properly installed in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory

and in accordance with the manufacturer's instructions. An installer licensed by the department under 567- Chapter 134, Part C must be used for all UST system installations.

NOTE: Tank and piping system installation practices and procedures described in the following codes may be used to comply with the requirements of 135.3(1)"d": ~~American Petroleum Institute Publication 1615, "Installation of Underground Petroleum Storage System"; Petroleum Equipment Institute Publication RP100, "Recommended Practices for Installation of Underground Liquid Storage Systems"; or American National Standards Institute Standard 831.3, "Petroleum Refinery Piping," and American National Standards Institute Standard 831.4, "Liquid Petroleum Transportation Piping System."~~

- American Petroleum Institute Publication 1615, "Installation of Underground Petroleum Storage System";
- Petroleum Equipment Institute Publication RP100, "Recommended Practices for Installation of Underground Liquid Storage Systems"
- National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code" and 30A "Code for Motor Fuel Dispensing Facilities and Repair Garages"

ITEM 44. Amend paragraph 135.3(1)"e" as follows:

e. Certification of installation. All owners and operators must ensure that the UST installer has been licensed by the department as provided in 567—Chapter 134, Part C ~~one or more of the following methods of certification, testing, or inspection is used to demonstrate compliance with paragraph "d"~~ of this subrule by providing a certification of compliance on the UST notification form in accordance with 135.3(3).

- ~~(1)The installer has been certified by the tank and piping manufacturers; or~~
- ~~(2)The installer has been certified or licensed by the department as provided in 567—Chapter 134, Part C; or~~
- ~~(3)The installation has been inspected and certified by a registered professional engineer with education and experience in UST system installation; or~~
- ~~(4)The installation has been inspected and approved by an inspector certified or licensed by the Iowa comprehensive petroleum underground storage tank fund board; or~~
- ~~(5)All work listed in the manufacturer's installation checklists has been completed; or~~
- ~~(6)The owner and operator have complied with another method for ensuring compliance with paragraph "d" that is determined by the department to be no less protective of human health and the environment.~~

ITEM 45. Adopt the following new paragraph 135.3(1)"f":

f. Dispenser Systems. Each UST system must be equipped with under-dispenser containment for any new dispenser system.

(1) A dispenser system is considered new when both the dispenser and the equipment needed to connect the dispenser to the underground storage tank system are installed at an UST facility. The equipment necessary to connect the dispenser to the underground storage tank system includes check valves, shear valves, unburied risers or flexible connectors, or other transitional components that are underneath the dispenser and connect the dispenser to the underground piping.

(2) Under-dispenser containment must be liquid-tight on its sides, bottom, and at any penetrations. Under-dispenser containment must allow for visual inspection and access to the components in the containment system or be periodically monitored for leaks from the dispenser system.

ITEM 46. Amend subrule 135.3(2) as follows:

135.3(2) Upgrading of existing UST systems. Owners and operators must permanently close any UST system that does not meet the new UST system performance standards or has not been upgraded in accordance with paragraphs (b) through (d) of this section. This does not apply to previously deferred UST systems. Upgrading is no longer allowed for UST systems not upgraded by December 22, 1998.

a. Alternatives allowed. Not later than December 22, 1998, all existing UST systems ~~must~~ had to comply with one of the following requirements:

- (1) New UST system performance standards under 135.3(1);
- (2) The upgrading requirements in paragraphs “b” through “d” below; or
- (3) Closure requirements under rule 567—135.15(455B), including applicable requirements for corrective action under rules 567—135.7(455B) to 567—135.12(455B).

Replacement or upgrade of a tank system on a petroleum contaminated site classified as a high or low risk in accordance with subrule 135.12(455B) shall be a double wall tank or a tank equipped with a secondary containment system with monitoring of the space between the primary and secondary containment structures in accordance with 135.5(4)“g” ~~or other approved tank system or methodology approved by the Iowa comprehensive petroleum underground storage tank fund board.~~

b. Tank upgrading requirements. Steel tanks ~~must had to~~ be upgraded to meet one of the following requirements in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory:

- (1) *Interior lining.* ~~A tank may be~~ Tanks upgraded by internal lining ~~if must~~ meet the following:
 1. The lining ~~is was~~ installed in accordance with the requirements of 135.4(4), and
 2. Within ten years after lining, and every five years thereafter, the lined tank is internally inspected and found to be structurally sound with the lining still performing in accordance with original design specifications.
 3. If the internal lining is no longer performing in accordance with original design specifications and cannot be repaired in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory, the lined tank must be permanently closed in accordance with rule 567—135.15(455B); and

4. Relining a tank is not considered a repair.

(2) *Cathodic protection.* ~~A tank may be~~ Tanks upgraded by cathodic protection ~~if the cathodic protection system~~ meets the requirements of 135.3(1)“a”(2)“2,” “3,” and “4” and the integrity of the tank ~~is was~~ ensured using one of the following methods:

1. The tank ~~is was~~ internally inspected and assessed to ensure that the tank is structurally sound and free of corrosion holes prior to installing the cathodic protection system; or
2. The tank ~~has had~~ been installed for less than ten years and is monitored monthly for releases in accordance with 135.5(4)“d” through “h”“i”; or
3. The tank ~~has had~~ been installed for less than ten years and ~~is was~~ assessed for corrosion holes by conducting two tightness tests that meet the requirements of 135.5(4)“c.” The first tightness test ~~must be was~~ conducted prior to installing the cathodic protection system. The second tightness test ~~must have been~~ be conducted between three and six months following the first operation of the cathodic protection system; or
4. The tank ~~is was~~ assessed for corrosion holes by a method that is determined by the department to prevent releases in a manner that is no less protective of human health and the environment than 135.3(2)“b”(2)“1” to “3.”

(3) *Internal lining combined with cathodic protection.* ~~A tank may be~~ Tanks upgraded by both internal lining and cathodic protection ~~if must have met the following~~:

1. The lining ~~is was~~ installed in accordance with the requirements of 135.4(4); and
2. The cathodic protection system was installed within six months of lining installation and meets

the requirements of 135.3(1)"a"(2)"2," "3," and "4."

~~NOTE: The following codes and standards may be used to comply with subrule 135.3(2): American Petroleum Institute Publication 1631, "Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks"; National Leak Prevention Association Standard 631, "Spill Prevention, Minimum 10-Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection"; National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems"; and American Petroleum Institute Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems."~~

Note to paragraph "b": The following historical codes of practice were listed as options for complying with paragraph "b" of this section:

- American Petroleum Institute Publication 1631, "Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks";
- National Leak Prevention Association Standard 631, "Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection";
- National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems"; and
- American Petroleum Institute Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems."

Note to paragraph "b"(1)"2": The following codes of practice may be used to comply with the periodic lining inspection requirement of this section:

- American Petroleum Institute Recommended Practice 1631, "Interior Lining and Periodic Inspection of Underground Storage Tanks";
- National Leak Prevention Association Standard 631, Chapter B "Future Internal Inspection Requirements for Lined Tanks"; or
- Ken Wilcox Associates Recommended Practice, "Recommended Practice for Inspecting Buried Lined Steel Tanks Using a Video Camera".

c. Piping upgrading requirements. Metal piping that routinely contains regulated substances and is in contact with the ground must be cathodically protected in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and must meet the requirements of 135.3(1)"b"(2)"2," "3," and "4."

Note: The codes and standards of practice listed in the note following 135.3(1)"b"(2) may be used to comply with this requirement.

d. Spill and overflow prevention equipment. To prevent spilling and overfilling associated with product transfer to the UST system, all existing UST systems must comply with ~~new~~ UST system spill and overflow prevention equipment requirements specified in 135.3(1)"c."

ITEM 47. Amend subrule 135.3(3) as follows:

135.3(3) Notification requirements.

a. Except as provided in 135.3(3)"b," the owner of an underground storage tank existing on or before July 1, 1985, shall complete and submit to the department a copy of the ~~notification~~registration form provided by the department ~~by May 1, 1986.~~

b. The owner of an underground storage tank taken out of operation between January 1, 1974, and July 1, 1985, shall complete and submit to the department a copy of the ~~notification~~registration form provided by the department ~~by May 8, 1986,~~ unless the owner knows the tank has been removed from the ground. For purposes of this subrule, "owner" means the person who owned the tank

immediately before the discontinuation of the tank's use.

c. An owner or operator who brings into use an underground storage tank ~~after July 1, 1985,~~ shall complete and submit to the department a copy of the ~~notification-registration~~ form provided by the department within 30 days of ~~installing the tank in the ground~~ the final installation inspection required in 567--134.27(2)"c"(455B) by a licensed installation inspector. The owner or operator shall not allow the deposit of any regulated substance into the tank without prior approval of the department or until the tank has been issued a tank permanent registration tag and annual tank tag have been attached to the tank fill port and the tank system is covered by an approved financial responsibility mechanism in accordance with 567—Chapter 136.

d. All owners and operators of new UST systems must certify in the ~~notification-registration~~ form compliance with the following requirements:

- (1) Installation of tanks and piping under 135.3(1)"e";
- (2) Cathodic protection of steel tanks and piping under 135.3(1)"a" and "b";
- (3) Financial responsibility under 567—Chapter 136, Iowa Administrative Code;
- (4) Release detection methods under 135.5(2) and 135.5(3);
- (5) UST system detail information and site diagram;
- (6) Class A, B and C operator certification under 135.4(6);
- (7) NESHAP Stage 1 vapor recovery.

e. All owners and operators of new UST systems must ensure that the installer certifies in the notification form that the methods used to install the tanks and piping comply with the requirements in 135.3(1)"d."

f. Exemption from reporting requirement. Paragraphs "a" to "c" do not apply to an underground storage tank for which notice was given pursuant to Section 103, Subsection c, of the Comprehensive Environmental Response, Compensation and Liabilities Act of 1980. (42 U.S.C. Subsection 9603(c))

g. Reporting fee. The notice by the owner to the department under paragraphs "a" to "c" shall be accompanied by a fee of \$10 for each tank included in the notice.

h. Notification requirement for installing a tank. A person installing an underground storage tank and the owner or operator of the underground storage tank must notify the department of their intent to install the tank 30 days prior to installation. Notification shall be on a form provided by the department.

i. Notification requirements for a person who acquires, sells, installs, modifies or repairs ~~a tank an~~ UST system.

(1) A person, company or lending institution that assumes ownership or operation of a regulated underground storage tank must submit notification to the department on a form provided by the department within 30 days of acquisition and prior to tank operation. The owner must include copies of training certificates for the Class A and Class B operators [135.4(6)] and proof of financial responsibility required in 567—Chapter 136. The new owner is responsible for any current and back tank management fees that have not been previously paid.

(2) A person who sells, installs, modifies, or repairs a tank used or intended to be used in Iowa shall notify, in writing, the purchaser and the owner or operator of the tank of the obligations specified in paragraphs 135.3(3)"c" and "j" and the financial assurance requirements in 567—Chapter 136. The notification must include the prohibition on depositing a regulated substance into tanks which have not been registered and issued tags by the department, or do not have financial assurance as required in 567-Chapter 136. A standard notification form supplied by the department may be used to satisfy this requirement.

j. It is unlawful for a person to deposit or accept a regulated substance in an underground storage tank that has not been registered and issued permanent or annual tank management tags in accordance with rule 567—135.3(455B). It is unlawful for a person to deposit or accept a regulated

substance into an underground storage tank if the person has received notice from the department that the underground storage tank is subject to a delivery prohibition or if there is a “red tag” attached to the UST fill pipe or fill pipe cap as provided in subrule 135.3(8).

(1) The department may provide written authorization to receive a regulated substance when there is a delay in receiving tank tags or at new tank installations to allow for testing the tank system.

(2) The department may provide known depositors of regulated substances lists of underground storage tank sites that have been issued tank tags, those that have not been issued tank tags, and those subject to a delivery prohibition pursuant to subrule 135.3(8). These lists do not remove the requirement for depositors to verify that current tank tags are affixed to the fill pipe prior to delivering product. Regulated substances cannot be delivered to underground storage tanks without current tank tags or those displaying a delivery prohibition “red tag” as provided in subrule 135.3(8).

(3) A person shall not accept or deposit a regulated substance in an underground storage tank after receiving written or oral notice from the department that the tank is not covered by an approved form of financial responsibility in accordance with 567—Chapter 136.

k. If an owner or operator fails to register an underground storage tank within 30 days after installation or obtain annual renewal tags by April 1, the owner or operator shall pay an additional \$250 per tank/compartament upon registration of the tank or application for tank tag renewal. The imposition of this fee does not preclude the department from assessing an additional administrative penalty in accordance with Iowa Code section 455B.476.

ITEM 48. Amend subrule 135.3(4) as follows:

135.3(4) *Farm and residential tanks.*

a. The owner or operator of a farm or residential tank of 1100 gallons or less capacity used for storing motor fuel for noncommercial purposes is subject to the requirements of this subrule.

b. Farm and residential tanks, installed before July 1, 1987, ~~shall be reported~~ are required to be registered with the department on a notification form by July 1, 1989, but owners or operators are not required to pay a registration fee.

c. Farm and residential tanks ~~that were~~ installed on or after July 1, 1987, ~~shall~~ must be in compliance with all the underground storage tank regulations

ITEM 49. Rescind subrule 135.3(5) “b” and replace with the following:

b. The owner or operator of tanks over 1100-gallon capacity must submit a tank management fee form and fee payment of \$65 per tank by January 15 of each year.

(1) An additional \$250 per tank late fee must be paid if the tank management fee is not paid by March 1.

(2) The owner or operator must submit written proof that the tanks are covered by an approved form of financial responsibility in accordance with 567—Chapter 136.

(3) Upon proper payment of the fee and acceptable proof of financial responsibility, a one-year registration tag will be issued for the period from April 1 to March 31 if there are no outstanding compliance violations.

(4) If there are outstanding compliance violations, the annual tank tags may be withheld until the violations are corrected.

(5) The department shall refund a tank management fee if the tank is permanently closed prior to the effective date of April 1 for that year.

ITEM 50. Amend subrule 135.3(5) “d” as follows:

d. A person who conveys or deposits a regulated substance shall inspect the underground storage tank to determine the existence or absence of a ~~current~~ permanent registration tag, a current annual

~~renewal tank management fee tag~~, or a delivery prohibition “red tag” as provided in subrule 135.3(8). If the permanent or annual tank tags are tag is not affixed to the fill pipe or fill pipe cap or if a delivery prohibition “red tag” is displayed, the person shall not deposit the substance in the tank.

ITEM 51. Amend subrule 135.3(6) as follows:

135.3(6) ~~*Previously unregistered petroleum*~~ *Petroleum—underground storage tanks tank registration amnesty program.*

a. A petroleum underground storage tank required to be registered under 135.3(3) and 135.3(4) which has not been registered shall prior to July 1, 1988, may be registered under the following conditions:

- (1) The tank registration fee under 135.3(3) “g” shall accompany the registration.
- (2) The storage tank management fee and any late fees under 135.3(5) and 135.3(3) “k” shall be paid for past years in which the tank should have been registered.
- (3) The department may wave the late fee.

ITEM 52. Rescind and reserve subrule 135.3(7).

ITEM 53. Amend 135.3(8) paragraph “a”(4) as follows:

4. If the UST system has been out of operation for more than three months, ~~that~~ the UST system has been temporarily closed in accordance with rule 567—135.15(455B) and a certification of temporary closure has been submitted to the department.

ITEM 54. Adopt new paragraphs 135.3(8) “b”(11), (12), (13) and (14) as follows:

(11) The owner or operator has failed to provide documentation of Class A or B operator training.

REINSTATEMENT CRITERION: The owner or operator must provide documentation of Class A and B operator training certificate.

(12) The owner or operator has failed to install required secondary containment.

REINSTATEMENT CRITERION: The owner or operator must document secondary containment has been installed as provided in 135.3(9).

(13) Failure to pay annual tank management fee.

REINSTATEMENT CRITERION: The owner or operator must pay the current and any previous unpaid tank management fees in addition to any late fees as provided in paragraph 135.3(4) “b”.

(14) When tanks are no longer in use or in temporary closure.

REINSTATEMENT CRITERION: The owner or operator must provide a completed *Return to Service* form along with required documents.

ITEM 55. Amend paragraph 135.3(9) through subparagraph “c” as follows:

135.3(9) *Secondary containment requirements for ~~new and replacement~~ UST system installations.* All new and replacement underground storage tank systems and appurtenances used for the storage and dispensing of petroleum products installed after November 28, 2007, shall have secondary containment in accordance with this subrule. The secondary containment provision includes the installation of turbine sumps, transition or intermediate sumps and under-dispenser containment (UDC).

a. The secondary containment may be manufactured as an integral part of the primary containment or constructed as a separate containment system.

b. Installation of any new or replacement turbine pumps involving the direct connection to the tank shall have secondary containment.

c. Any replacement of ten feet or more of piping shall have secondary containment. If removing 50 percent or more of any piping run, the entire piping must be removed and replaced with secondarily contained piping and interstitial monitoring.

ITEM 56. Amend paragraph 135.3(9)"g" as follows:

g. Testing and inspection. Secondary containment systems shall be liquid-tight and must be inspected and tested ~~every two years~~ within three years of the previous test. The sensing devices must be tested every year.

(1) Inspections for secondary containment sumps (~~spill catchment basins~~, turbine sumps, transition or intermediate sumps, and under-dispenser containment) shall:

1. Consist of a visual inspection by an Iowa-licensed installer or Iowa-certified inspector every two years. Sumps must be intact (no cracks or perforations) and liquid-tight, including sides and bottom.

2. Sumps must be maintained and kept free of debris, liquid and ice at all times.

3. Regulated substances leaked or spilled into any ~~spill catchment basin~~, turbine sump, transition/intermediate sump or under-dispenser containment shall be immediately removed.

(2) Sensing devices used to monitor the interstitial space or containment sumps shall be tested at least every ~~two years~~ year for proper function.

ITEM 57. Adopt new paragraph 135.3(9)"h"(4) as follows:

(4) All UDCs must be maintained liquid tight, free of liquid and debris. If the containment is used for piping leak detection, monthly leak detection monitoring is required.

ITEM 58. Rescind paragraphs 135.3(9)"i" and "j" and add the following new paragraph "i".

i. Owners and operators of UST systems with containment sumps (turbine sumps, transition or intermediate sumps, and under-dispenser containment) used for interstitial monitoring of piping must meet these requirements to ensure the equipment is operating properly and will prevent releases to the environment:

(1) Containment sumps used for interstitial monitoring of piping must prevent releases to the environment by meeting one of the following:

1. The equipment is double walled and the integrity of both walls is periodically monitored at a frequency not less than the frequency of the walkthrough inspections described in 567-135.21(2)"f". If owners and operators discontinue periodic monitoring of this equipment they must begin meeting paragraph 2 of this section and conduct a test within 30 days of discontinuing periodic monitoring of this equipment; or

2. Containment sumps used for interstitial monitoring of piping are tested at least once every three years to ensure the equipment is liquid tight by using vacuum, pressure, or liquid testing in accordance with one of the following criteria:

- Requirements developed by the manufacturer (Note: Owners and operators may use this option only if the manufacturer has developed requirements); or

- Code of practice developed by a nationally recognized association or independent testing laboratory; or

- Requirements determined by the Iowa DNR to be no less protective of human health and the environment than the requirements listed in this section.

(2) Owners and operators must begin meeting these requirements as follows:

1. For UST systems in use on or before [effective date of rule], the initial containment sump test must be conducted not later than [three years after effective date of rule]

2. For UST systems brought into use after [effective date of rule], these requirements apply at installation.

(3) Owners and operators must maintain records as follows for containment sumps used for interstitial monitoring of piping:

1. All records of testing or inspection must be maintained for three years; and
2. Containment sumps used for interstitial monitoring of piping not tested every three years, documentation showing that the prevention equipment is double walled and the integrity of both walls is periodically monitored must be maintained for as long as the equipment is periodically monitored.

Note the following code of practice may be used to comply with this section: Petroleum Equipment Institute Publication RP1200, "Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities".

ITEM 59. Amend subrule 135.4(1)"a" as follows:

a. Owners and operators must ensure that releases due to spilling or overfilling do not occur. The owner and operator must ensure that the volume available in the tank is greater than the volume of product to be transferred to the tank before the transfer is made and that the transfer operation is monitored constantly to prevent overfilling and spilling.

NOTE: The transfer procedures described in National Fire Protection Association ~~Publication Standard 385~~ "Standard for Tank Vehicles for Flammable and Combustible Liquids" or American Petroleum Institute Recommended Practice 1007, "Loading and Unloading of MC 306/DOT 406 Cargo Tank Motor Vehicles" may be used to comply with 135.4(1)"a." Further guidance on spill and overfill prevention appears in American Petroleum Institute ~~Publication 1621~~, "Recommended Practice for 1621 "Bulk Liquid Stock Control at Retail Outlets," and National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code."

ITEM 60. Adopt ~~new~~ paragraph 135.4(1)"c" as follows:

c. Owners and operators of UST systems with spill and overfill prevention equipment must meet these requirements to ensure the equipment is operating properly and will prevent releases to the environment:

(1) Spill prevention equipment (such as a catchment basin, spill bucket, or other spill containment device) must prevent releases to the environment by meeting one of the following:

1. The equipment is double walled and the integrity of both walls is periodically monitored at a frequency not less than the frequency of the walkthrough inspections described in 567-135.21(2)"f". If owners and operators discontinue periodic monitoring of this equipment they must begin meeting paragraph 2 of this section and conduct a test within 30 days of discontinuing periodic monitoring of this equipment; or

2. The spill prevention equipment is tested at least once every three years to ensure the equipment is liquid tight by using vacuum, pressure, or liquid testing in accordance with one of the following criteria:

- Requirements developed by the manufacturer (Note: Owners and operators may use this option only if the manufacturer has developed requirements); or
- Code of practice developed by a nationally recognized association or independent testing laboratory; or
- Requirements determined by the Iowa DNR to be no less protective of human health and the environment than the requirements listed in this section.

(2) Overfill prevention equipment must be inspected at least once every three years. At a minimum, the inspection must ensure that overfill prevention equipment is set to activate at the correct level specified in 135.3(1)"c" and will activate when regulated substance reaches that level. Inspections must be conducted in accordance with one of the criteria in paragraph "c"(1) of this section.

(3) Owners and operators must begin meeting these requirements as follows:

1. For UST systems in use on or before [effective date of rule], the initial spill prevention

equipment test, and overfill prevention equipment inspection must be conducted not later than **[three years after effective date of rule]**

2. For UST systems brought into use after **[effective date of rule]**, these requirements apply at installation.

(4) Owners and operators must maintain records as follows for spill prevention equipment, and overfill prevention equipment:

1. All records of testing or inspection must be maintained for three years; and
2. For spill prevention equipment documentation showing that the prevention equipment is double walled and the integrity of both walls is periodically monitored must be maintained for as long as the equipment is periodically monitored.

Note the following code of practice may be used to comply with this section: Petroleum Equipment Institute Publication RP1200, "Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities".

ITEM 61. Amend 'NOTE' in 135.4(2)"b" as follows:

NOTE: ~~National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems,"~~ The following codes of practice may be used to comply with 135.4(2)"b"(2).

- NACE International Test Method TM 0101, "Measurement Techniques Related to Criteria for Cathodic Protection of Underground Storage Tank Systems";
- NACE International Test Method TM0497, "Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Piping Systems";
- Steel Tank Institute Recommended Practice R051, "Cathodic Protection Testing Procedures for STI-P3® USTs";
- NACE International Standard Practice SP 0285, "External Control of Underground Storage Tank Systems by Cathodic Protection"; or
- NACE International Standard Practice SP 0169, "Control of External Corrosion on Underground or Submerged Metallic Piping Systems".

ITEM 62. Adopt new 135.4(2)"e" as follows:

e. When an impressed current cathodic protection system is not providing cathodic protection for the time periods given below, take the following actions:

(1) For impressed current cathodic protection systems that have been inoperative for 0-90 days after failing a corrosion protection test or after discovering the system is not operating, all of the following must be done:

1. Power must be restored to an inoperative corrosion protection system. A damaged or failed corrosion protection system must be repaired by a cathodic protection tester. (A corrosion expert must approve any modifications to the system that are outside of the original design.);

2. The corrosion protection system must be retested within 6 months of repair.

3. A copy of the test and any repairs must be kept as part of the cathodic protection records;

4. A copy of the new design standards must be kept as part of the cathodic protection records;

(2) For impressed current corrosion protection systems that have been inoperative for 90-365 days or repaired 90-365 days after failing a corrosion protection test, all of the following must be done:

1. Notify the department.

2. Power must be restored to an inoperative corrosion protection system.

3. The corrosion protection system must be repaired, tested and recommissioned under the supervision of a corrosion expert.

4. A precision tightness test must be conducted on the entire UST system.
 5. The corrosion protection system must be retested within six months of the repair or power being restored.
 6. A copy of the test and any repairs must be kept as part of the cathodic protection records;
 7. A copy of the new design standards must be kept as part of the cathodic protection records;
 8. If determined the tank is not suitable for corrosion protection, the tank must be permanently closed in accordance with 135.15.
- (3) If an UST system has been in operation storing and dispensing product for the last 365 days, but the impressed current corrosion protection system has been inoperative for more than 365 days or was not repaired for more than 365 days after failing a corrosion protection test, all of the following must be done:
1. Notify the department.
 2. Immediately empty and stop using the tank system.
 3. An internal, manned inspection of the steel tank must be conducted according to a national standard (e.g., API 1631). If the UST fails the internal inspection, the UST owner must permanently close the tank in accordance 567—135.15(2) and the UST Section Removal Guidance.
 4. All metal piping and buried metal components (e.g., flex connectors, couplings) that routinely contain product must be inspected by a UST professional or cathodic protection tester. If the metallic components have no visible corrosion and have passed a line tightness test (unless the piping is exempt from leak detection, e.g., Safe or European Suction) then the cathodic protection system may be repaired or replaced under the supervision of a corrosion expert. Metallic components that show visible corrosion must be replaced.
 5. A precision test must be conducted on the entire UST system following repair or replacement of the cathodic protection system.
 6. The corrosion protection system must be retested within 6 months of repair.
 7. A copy of the tests and any repairs must be kept as part of the cathodic protection records;
 8. A copy of the new design standards must be kept as part of the cathodic protection records;
- (4) If the UST system has been in temporary closure for more than 365 days, unable or will not be brought back into immediate use, the tank system must be permanently closed in accordance with 135.15(455B).

ITEM 63. Adopt new paragraphs 135.4(3)"a" and "b" and Note:

- a. Owners and operators must notify the department at least 30 days prior to switching to a regulated substance containing greater than 10 percent ethanol, greater than 20 percent biodiesel, or any other regulated substance identified by the department.
- b. Owners and operators must have an UST installer licensed under 567-Chapter 134(455B) submit the department's checklist for equipment compatibility for the UST system to the department.

NOTE: Owners and operators storing alcohol blends may use the following codes to comply with the requirements of subrule 135.4(3): American Petroleum Institute Publication Recommended Practice 1626, "Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Service Filling Stations"; and American Petroleum Institute Publication 1627, "Storage and Handling of Gasoline-Methanol/Cosolvent Blends at Distribution Terminals and Service Stations."

ITEM 64. Amend subrule 135.4(4) as follows:

135.4(4) Repairs ~~allowed and replacement~~. Owners and operators of UST systems must ensure that repairs will prevent releases due to structural failure or corrosion as long as the UST system is used to store regulated substances. The repairs must meet the following requirements:

a. Repairs to UST systems must be properly conducted in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory.

NOTE: The following codes and standards may be used to comply with 135.4(4)“a”:~~National Fire Protection Association Standard 30, “Flammable and Combustible Liquids Code”; American Petroleum Institute Publication 2200, “Repairing Crude Oil, Liquefied Petroleum Gas, and Product Pipelines”; American Petroleum Institute Publication 1631, “Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks”; and National Leak Prevention Association Standard 631, “Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection.”~~

- National Fire Protection Association Standard 30, “Flammable and Combustible Liquids Code”;
- International Fire Code;
- American Petroleum Institute Publication 2200, “Repairing Crude Oil, Liquefied Petroleum Gas, and Product Pipelines”; and
- American Petroleum Institute Publication 1631, “Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks”;.”
- National Fire Protection Association Standard 326, “Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair”;
- National Leak Prevention Association Standard 631, Chapter A, “Entry, Cleaning, Interior Inspection, Repair, and Lining of Underground Storage Tanks”;
- Steel Tank Institute Recommended Practice R972, “Recommended Practice for the Addition of Supplemental Anodes to STI-P3® Tanks”;
- NACE International Standard Practice SP 0285, “External Control of Underground Storage Tank Systems by Cathodic Protection.”; or
- Fiberglass Tank and Pipe Institute Recommended Practice T-95-02, “Remanufacturing of Fiberglass Reinforced Plastic (FRP) Underground Storage Tanks”.

b. Repairs to fiberglass-reinforced plastic tanks may be made by the manufacturer’s authorized representatives or in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory.

c. Metal pipe sections and fittings that have released product as a result of corrosion or other damage must be replaced. ~~Fiberglass~~ Non-corrodible pipes and fittings may be repaired in accordance with the manufacturer’s specifications.

d. Repairs to secondary containment areas of tanks and piping used for interstitial monitoring and to containment sumps used for interstitial monitoring of piping must have the secondary containment tested for tightness. The repairs must be according to the manufacturer’s instructions, a code of practice developed by a nationally recognized association or independent testing laboratory, or according to requirements established by the implementing agency within 30 days following the date of completion of the repair. All other repairs to ~~Repaired~~ tanks and piping must be tightness tested in accordance with 135.5(4)“c” and 135.5(5)“b” within 30 days following the date of the completion of the repair except as provided in subparagraphs (1) to (3) below:

- (1)The repaired tank is internally inspected in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory; or
- (2)The repaired portion of the UST system is monitored monthly for releases in accordance with a method specified in 135.5(4)“d” through ~~“h”~~“i”;
- (3)Another test method is used that is determined by the department to be no less protective of human health and the environment than those listed above.

Note to paragraph (d): The following codes of practice may be used to comply with paragraph (d) of this section:

- Steel Tank Institute Recommended Practice R012, “Recommended Practice for Interstitial Tightness Testing of Existing Underground Double Wall Steel Tanks”; or
- Fiberglass Tank and Pipe Institute Protocol, “Field Test Protocol for Testing the Annular Space of Installed Underground Fiberglass Double and Triple-Wall Tanks with Dry Annular Space”.
- Petroleum Equipment Institute Recommended Practice RP1200, “Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities”.

e. Within six months following the repair of any cathodically protected UST system, the cathodic protection system must be tested in accordance with 135.4(2)“b” and “c” to ensure that it is operating properly.

f. Within 30 days following any repair to spill or overfill prevention equipment, the repaired spill or overfill prevention equipment must be tested or inspected, as appropriate, in accordance with 135.4(1) to ensure it is operating properly.

~~g. UST system owners and operators must maintain records of each repair for the remaining operating life until the UST system is permanently closed or undergoes a change-in-service pursuant to 135.15(2) that demonstrate compliance with the requirements of this subrule.~~

ITEM 65. Adopt the following new subparagraph 135.4(5)“d”(2) and renumber the following paragraphs. Add new paragraphs (6), (7), (8) and (9):

a. *Reporting.* Owners and operators must submit the following information to the department:

(1) Notification for all UST systems (135.3(3)), which includes certification of installation for new UST systems (135.3(1)“e”);

(2) Equipment replacement or addition of new equipment;

(3) Reports of all releases including suspected releases (135.6(1)), spills and overfills (135.6(4)), and confirmed releases (135.7(2));

(4) Corrective actions planned or taken including initial abatement measures (135.7(3)), initial site characterization (567—135.9(455B)), free product removal (135.7(5)), investigation of soil and groundwater cleanup and corrective action plan (567—135.8(455B) to 567—135.12(455B)); and

(5) A notification before permanent closure or change-in-service (135.15(2)).

(6) Notification of any change in ownership when selling the tank property.

(7) Notification of any change in Class A or Class B operators.

(8) Notification of any loss of financial responsibility (i.e. insurance).

(9) Notification prior to UST systems switching to certain regulated substances.

ITEM 66. Amend paragraph 135.4(5)“b” as follows:

b. *Record keeping.* Owners and operators must maintain the following information:

(1) A corrosion expert’s analysis of site corrosion potential if corrosion protection equipment is not used (135.3(1)“a”(4); (135.3(1)“b”(3)).

(2) Documentation of operation of corrosion protection equipment (135.4(2));

(3) ~~Recent~~ Documentation of UST system repairs (135.4(4)“f”);

(4) Documentation of compliance with release detection requirements (135.5(6)); ~~and~~

(5) Results of the site investigation conducted at permanent closure ~~(135.15(5))~~(135.15(3)).

(6) Cathodic protection system testing results.(135.4(2))

(7) Class A, B and C operator training certificates.(135.4(6))

(8) Secondary containment test results.(135.3(9))

(9) Documentation of periodic walkthrough inspections. (135.4(12))

(10) Documentation of compatibility for UST systems.(135.4(3))

(11) Documentation of compliance for spill and overfill prevention equipment and containment

sumps used for interstitial monitoring of piping(135.4(1))

ITEM 67. Amend paragraph 135.4(6)"b" as follows:

b. A facility may not operate ~~after December 31, 2011,~~ unless operators have been designated and trained as required in this rule, or unless otherwise agreed upon by the department based on a finding of good cause for failure to meet this requirement and a plan for designation and training at the earliest practicable date.

ITEM 68. Amend paragraph 135.4(6)"g" as follows:

g. Designated operators must successfully complete required training under subrule 135.4(9)~~no later than December 31, 2011.~~

ITEM 69. Amend paragraph 135.4(6)"i" as follows:

i. When a facility is found to be out of compliance, the department may require ~~the owner and operator to retrain~~ the designated UST system Class A, B, or C operator to be retrained under a plan approved by the department. The retraining must occur within ~~60~~ 30 days from departmental notice for Class A and Class B operators and within 15 days for Class C operators.

ITEM 70. Adopt new paragraph 135.4(6)"j" as follows:

j. The department may require Class A and B operators to retake operator training when rule changes are made to UST regulations.

ITEM 71. Amend paragraph 135.4(7)"b"(1)(9) as follows:

9. Training and documenting Class C operators to make sure at least one Class C operator is on site during operating hours. Class B operators shall be familiar with Class C operator responsibilities and may provide ~~required~~ additional training for Class C operators.

ITEM 72. Amend subrule 135.4(8) the first paragraph as follows:

135.4(8) *UST operator training course requirements.* Individuals must attend a department-approved training course covering material designated for each operator class. Individuals must attend every session of the training, and take the department's examination, ~~and attend examination review.~~ The department examination must be passed with 85% correct.

ITEM 73. Amend subparagraph 135.4(8)"b"(8) as follows:

(8)Requirements of monthly and annual inspections. Discussion of the benefits of monthly or frequent inspections and content and use of inspection checklists. Training materials for operators shall include the department's "Iowa UST Operator Inspection Checklist" or a checklist template similar to the department's document.

ITEM 74. Adopt new subparagraph 135.4(8)"b"(19) as follows:

(19) Requirements for facilities that operate unstaffed at any time.

ITEM 75. Adopt a new paragraph 135.4(8)"c" as follows:

c. *Class C operators.* To be certified as a Class C operator, an individual must complete a department-approved training course that covers, at a minimum:

- a general overview of the department's UST program and purpose;
- groundwater protection goals;

- public safety;
- UST system overview;
- administrative requirements; and
- action to be taken in response to an emergency condition due to a spill or release from a UST system.

Training must include written procedures for the Class C operator, including notification instructions necessary in the event of emergency conditions. The written instructions and procedures must be readily available on site. A Class A or Class B operator shall provide additional on-site Class C training specific to their UST system.

ITEM 76. Amend subrule 135.4(10) as follows:

135.4(10) Timing of UST operator training.

a. An owner shall ensure that Class A, Class B, and Class C operators are trained ~~as soon as practicable after October 14, 2009, contingent upon availability of~~ by approved training providers, but not later than December 31, 2011, except as provided in paragraph 135.4(6) "b."

b. When a Class A or Class B operator is replaced, a new operator must be trained prior to assuming duties for that class of operator. Certificate of training must be submitted to the department within 30 days of assuming duties.

c. Class C operators must be trained before assuming the duties of a Class C operator. ~~Within six months after October 14, 2009, written~~ Written basic operating instructions, emergency contact names and telephone numbers, and basic procedures specific to the facility shall be provided to all Class C operators and readily available on site. A Class C operator may be briefed on these procedures concurrent with annual safety training required under Occupational Safety and Health Administration regulations, 29 CFR, Part 1910.

ITEM 77. Amend subrule 135.4(11)"b" as follows:

b. A copy of the certificates of training for Class A and Class B operators shall be on file and readily available for inspection in accordance with subrule 135.4(5). Records verifying completion of training or retraining of Class A , Class B and Class C operators must identify name of trainee, date trained, operator training class completed, and list the name of the trainer or examiner and the training company name, address, and telephone number. Owners and operators must maintain these records for as long as Class A, Class B, and Class C operators are designated.

ITEM 78. Adopt new subrule 135.4(12) as follows:

135.4(12) Periodic operation and maintenance walkthrough inspections. Conduct inspections to properly operate and maintain UST systems.

a. Conduct a walkthrough inspection every 30 days that, at a minimum, checks the following equipment as specified below (Exception: spill prevention equipment at UST systems receiving deliveries at intervals greater than every 30 days may be checked prior to each delivery):

(1) Spill prevention equipment - visually check for damage; remove liquid or debris; check for and remove obstructions in the fill pipe; check the fill cap to make sure it attaches securely on the fill pipe and gasket is in good condition; and, for double walled spill prevention equipment with interstitial monitoring, check for a leak in the interstitial area, and

(2) Release detection equipment - check to make sure the release detection equipment is operating with no alarms or other unusual operating conditions present; and ensure records of release detection testing are reviewed and current.

(3) Visually inspect piping under dispensers at least once per month for leaks. If under dispenser

containment is present the visual inspection is not required.

b. Conduct a walkthrough inspection annually, at a minimum, checking the following equipment as specified below:

(1) Containment sumps - visually check for damage, leaks to the containment area, or releases to the environment; remove liquid (in contained sumps) or debris; and, for double walled sumps with interstitial monitoring, check for a leak in the interstitial area, and

(2) Hand held release detection equipment - check devices such as tank gauge sticks or groundwater bailers for operability and serviceability; or

(3) Conduct operation and maintenance walkthrough inspections according to a standard code of practice developed by a nationally recognized association or independent testing laboratory that checks equipment comparable to (a) and (b) of this section; or

(4) Conduct operation and maintenance walkthrough inspections developed by the department.

c. Owners and operators must maintain records (in accordance with 135.4(5)) of operation and maintenance walkthrough inspections for 12 consecutive months. Records must include a list of each area checked, whether each area checked was acceptable or needed action taken, a description of actions taken to correct an issue, and delivery records if spill prevention equipment is checked less frequently than every 30 days due to infrequent deliveries.

Note to paragraph (b)(3): the following code of practice may be used to comply with paragraph (b)(3) of this section: Petroleum Equipment Institute Recommended Practice RP 900, "Recommended Practices for the Inspection and Maintenance of UST Systems"

ITEM 79. Amend paragraphs 135.5(1)"a" and "b" and inserting new paragraph (3) and renumber current paragraph (3) as follows:

a. Owners and operators of ~~new and existing~~ UST systems must provide a method, or combination of methods, of release detection that:

(1) Can detect a release from any portion of the tank and the connected underground piping that routinely contains product;

(2) Is installed, and calibrated, operated, and maintained in accordance with the manufacturer's instructions, including routine maintenance and service checks for operability or running condition; and

(3) Beginning (three years after the effective date of rule) is operated and maintained, and electronic and mechanical components are tested for proper operation, in accordance with one of the following:

1. manufacturer's instructions;

2. a code of practice developed by a nationally recognized association or

3. independent testing laboratory; or

4. requirements determined by the DNR to be no less protective of human health and the environment than the two options listed above.

(4) A test of the proper operation performed at least annually and, at a minimum, as applicable to the facility, cover the following components and criteria:

1. Automatic tank gauge and other controllers: test alarm; verify system configuration; test battery backup;

2. Probes and sensors: inspect for residual buildup; ensure floats move freely; ensure shaft is not damaged; ensure cables are free of kinks and breaks; test alarm operability or running condition and communication with controller; Automatic line leak detector: test operation to meet criteria in 135.5(5)"a" by simulating a leak;

3. Vacuum pumps and pressure gauges: ensure proper communication with sensors and

controller; and

4. Hand-held electronic sampling equipment associated with groundwater and vapor monitoring: ensure proper operation.

Note to paragraph (a)(3): The following code of practice may be used to comply with paragraph (a)(3) of this section: Petroleum Equipment Institute Publication RP1200, "Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities".

(5) Meets the performance requirements in 135.5(4) or 135.5(5), with any performance claims and their manner of determination described in writing by the equipment manufacturer or installer. In addition, methods conducted in accordance with 135.5(4)"b," "c," and "d" and 135.5(5)"b" ~~after December 22, 1990 and 135.5(5)"a" after September 22, 1991, except for methods permanently installed prior to those dates~~ must be capable of detecting the leak rate or quantity specified for that method with a probability of detection of 0.95 and a probability of false alarm of 0.05.

b. When a release detection method operated in accordance with the performance standards in 135.5(4) ~~and or~~ 135.5(5) indicates a release may have occurred, owners and operators must notify the department in accordance with rule 567—135.6(455B).

ITEM 80. Rescind paragraph 135.5(1)"c" and adopt the following new paragraph:

c. When an owner and operator continually shows the inability to conduct leak detection with the method being used, the department may require the owner and operator to find an alternative leak detection method. If the owner and operator cannot demonstrate compliance with leak detection delivery prohibition in accordance with 135.3(8) may be enforced.

Item 81. Amend paragraph 135.5(1)"d" as follows:

d. Any ~~existing~~ UST system that cannot apply a method of release detection that complies with the requirements of this rule must complete the closure procedures in rule 567—135.15(455B) ~~by the date on which release detection is required for that UST system under paragraph "c."~~ For previously deferred UST systems described in 567-135.1(455B) and 567-135.21(455B), this requirement applies after the effective dates described in 135.1(3) and 135.21(1)"a".

ITEM 82 . Rescind paragraph 135.5(1)"e"(3).

ITEM 83. Amend paragraph 135.5(2)"a" as follows:

a. *Tanks.* Tanks must be monitored at least every 30 days for releases using one of the methods listed in 135.5(4)"d" to ~~"h"~~ *"i"* except that:

(1) UST systems installed after November 28, 2007 must use interstitial monitoring of the secondary containment as the primary leak detection method in accordance with 135.5(4)"g". ~~that meet the performance standards in 135.3(1) or 135.3(2), and the monthly inventory control requirements in 135.5(4)"a" or "b," may use tank tightness testing (conducted in accordance with 135.5(4)"c") at least every five years until December 22, 1998, or until ten years after the tank is installed or upgraded under 135.3(2)"b," whichever is later;~~

(2) ~~UST systems that do not meet the performance standards in 135.3(1) or 135.3(2) may use monthly inventory controls (conducted in accordance with 135.5(4)"a" or "b") and annual tank tightness testing (conducted in accordance with 135.5(4)"c") until December 22, 1998, when the tank must be upgraded under 135.3(2) or permanently closed under 135.15(2); and~~

(2) Replacement or upgrade of a tank system after February 21, 1992 on a petroleum contaminated site classified as a high or low risk in accordance with subrule 135.12(455B) must use

interstitial monitoring of the secondary containment as the primary leak detection method.

(3)-Tanks with capacity of 550 gallons or less may use weekly and tanks with a capacity of 551 to 1,000 gallons that meet the tank diameter criteria in 135.5(4)"b" may use manual tank gauging conducted in accordance with 135.5(4)"b".

ITEM 84. Amend paragraph 135.5(2)"b" as follows:

b. Piping. Underground piping that routinely contains regulated substances must be monitored for releases in a manner that meets one of the following requirements:

(1) *Pressurized piping.* Underground piping that conveys regulated substances under pressure must:

1. Be equipped with an automatic line leak detector conducted in accordance with 135.5(5)"a"; and
2. Have an annual line tightness test conducted in accordance with 135.5(5)"b" or have monthly monitoring conducted in accordance with 135.5(5)"c." Piping installed after November 28, 2007 must use interstitial monitoring of the piping secondary containment in accordance with 135.5(5)"a".

(2) *Suction piping.* Underground piping that conveys regulated substances under suction must either have a line tightness test conducted at least every three years and in accordance with 135.5(5)"b," or use a monthly monitoring method conducted in accordance with 135.5(5)"c." No release detection is required for suction piping that is designed and constructed to meet the following standards:

1. The below-grade piping operates at less than atmospheric pressure;
2. The below-grade piping is sloped so that the contents of the pipe will drain back into the storage tank if the suction is released;
3. Only one check valve is included in each suction line;
4. The check valve is located directly below and as close as practical to the suction pump; and
5. A method is provided that allows compliance with "2" through "4" to be readily determined.

(3) Piping installed or replaced must meet one of the following:

1. Pressurized piping must be monitored for releases at least every 30 days and be equipped with an automatic line leak detector.
2. Suction piping must be monitored for releases at least every 30 days. No release detection is required for suction piping that meets paragraphs (b)(2)(1) through (5) of this section.
3. Remote fill piping must use interstitial monitoring for leak detection.

ITEM 85. Rescind paragraph 135.5(3) and replace as follows:

135.5(3) Requirements for hazardous substance UST systems. Owners and operators of hazardous substance UST systems must have containment that meets the following requirements and monitor these systems using 135.5(4)"g" at least every 30 days:

a. Secondary containment systems must be designed, constructed and installed to:

- (1) Contain regulated substances leaked from the primary containment until they are detected and removed;
- (2) Prevent the release of regulated substances to the environment at any time during the operational life of the UST system; and
- (3) Be checked for evidence of a release at least every 30 days.

b. Double-walled tanks must be designed, constructed, and installed to:

- (1) Contain a leak from any portion of the inner tank within the outer wall; and
- (2) Detect the failure of the inner wall.

c. External liners (including vaults) must be designed, constructed, and installed to:

- (1) Contain 100 percent of the capacity of the largest tank within its boundary;
- (2) Prevent the interference of precipitation or groundwater intrusion with the ability to contain

or detect a release of regulated substances; and

(3) Surround the tank completely (i.e., it is capable of preventing lateral as well as vertical migration of regulated substances).

d. Underground piping must be equipped with secondary containment that satisfies the requirements of this section (e.g., trench liners, jacketing of double-walled pipe). In addition, underground piping that conveys regulated substances under pressure must be equipped with an automatic line leak detector in accordance with 135.5(5)“a”;

e. Other methods of release detection may be used if owners and operators:

(1) Demonstrate to the department that an alternate method can detect a release of the stored substance as effectively as any of the methods allowed in 135.5(4)“b” to “i” can detect a release;

(2) Provide information to the department on effective corrective action technologies, health risks, and chemical and physical properties of the stored substance, and the characteristics of the UST site; and

(3) Obtain approval from the department to use the alternate release detection method before the installation and operation of the new UST system.

ITEM 86. Amend “Note” in 135.5(4) as follows:

NOTE: Practices described in the American Petroleum Institute Recommended Practice 1621, “~~Publication Recommended Practice~~ for Bulk Liquid Stock Control at Retail Outlets,” may be used, where applicable, as guidance in meeting the requirements of subrule 135.5(4), paragraph “a,” subparagraphs (1) to (6).

ITEM 87. Rescind paragraph 135.5(4)“b” and adopt the following **new** paragraph “b”:

b. *Manual tank gauging.* Manual tank gauging must meet the following requirements:

(1) Tank liquid level measurements are taken at the beginning and end of the test period during which no liquid is added to or removed from the tank;

(2) Level measurements are based on an average of two consecutive stick readings at both the beginning and ending of the period;

(3) The equipment is capable of measuring the level of product over the full range of the tank’s height to the nearest 1/8 of an inch;

(4) A release is suspected and subject to the requirements of rule 135.6(455B) if the variation between the beginning and ending measurements exceeds the weekly or monthly standards in the following table. Immediately contact the department if these standards are exceeded.

Nominal Tank Capacity	Minimum Duration Of Test	Weekly Standard (1 test)	Monthly Standard (4-test average)
550 gallons or less	36 hours	10 gallons	5 gallons
551-1000 gallons (when tank diameter is 64 inches)	44 hours	9 gallons	4 gallons
551-1000 gallons (when tank diameter is 48 inches)	58 hours	12 gallons	6 gallons
551-1000 gallons (also requires annual tank tightness testing)	36 hours	13 gallons	7 gallons
1,001-2000 gallons (also requires annual tank tightness test)	36 hours	26 gallons	13 gallons

(5) Only those tanks of 550 gallons or less nominal capacity or tanks of 551 to 1000 gallons nominal capacity with diameters of 64 inches or 48 inches may use this as the sole method of release detection. Other tanks of 551 to 2000 gallons may use this method in place of manual inventory control in 135.5(4) "a." Tanks of greater than 2,000 gallons nominal capacity may not use this method to meet the requirements of this rule.

ITEM 88. Amend paragraph 135.5(4)"c" as follows:

c. Tank tightness testing. Tank tightness testing (or another test of equivalent performance) must be capable of detecting a 0.1 gallon-per-hour leak rate from any portion of the tank that routinely contains product while accounting for the effects of thermal expansion or contraction of the product, vapor pockets, tank deformation, evaporation or condensation, and the location of the water table.

The tank tightness test procedure must be certified by a third party and meet US EPA testing procedures. The testing procedures are found in *Standard Test Procedures for Evaluating Leak Detection Methods: Volumetric Tank Tightness Testing Methods* (EPA /530/UST-90/004) March 1990 or *Non Volumetric Tank Tightness Testing Methods* (EPA /530/UST-90/005) March 1990.

ITEM 89. Amend paragraph 135.5(4)"d" as follows:

d. Automatic tank gauging. Equipment for automatic tank gauging that tests for the loss of product and conducts inventory control must meet the following requirements:

(1) The automatic product level monitor test can detect a 0.2 gallon-per-hour leak rate from any portion of the tank that routinely contains product; and

(2) The automatic tank gauging equipment must meet the inventory control (or another other test of equivalent performance) is conducted in accordance with the requirements of 135.5(4)"a." and

(3) The leak test must be performed within 20% of the highest product level in the tank for that month; and.

(4) The automatic tank gauging equipment must be certified by a third party and meet US EPA testing procedures in *Standard Test Procedures for Evaluating Leak Detection Methods: Automatic Tank Gauging Systems (ATGS)* (EPA /530/UST-90/006) March 1990; and

(5) The test must be performed with the system operating in one of the following modes:

1. In-tank static testing conducted at least once every 30 days; or

2. Continuous in-tank leak detection operating on an uninterrupted basis or operating within a process that allows the system to gather incremental measurements to determine the leak status of the tank at least once every 30 days.

ITEM 90. Amend subparagraph 135.5(4)"e"(6) as follows:

(6) In the UST excavation zone, the site is assessed to ensure compliance with the requirements in 135.5(4)"e"(1) ~~to through~~ (4) and to establish the number and positioning of monitoring wells that will detect releases within the excavation zone from any portion of the tank that routinely contains product; and

ITEM 91. Adopt **new** subparagraph 135.5(4)"e"(8) as follows:

(8) The vapor product detector must be certified by a third party and meet US EPA testing procedures in *Standard Test Procedures for Evaluating Leak Detection Methods: Vapor-Phase Out-of-Tank Product Detectors* (EPA /530/UST-90/008) March 1990.

ITEM 92. Amend subparagraph 135.5(4)"f"(7): as follows:

(7) Within and immediately below the UST system excavation zone, the site is assessed to ensure compliance with the requirements in 135.5(4)"f"(1) ~~to through~~ (5) and to establish the number and

positioning of monitoring wells or devices that will detect releases from any portion of the tank that routinely contains product; and

ITEM 93. Amend paragraph 135.5(4)“g” as follows:

g. Interstitial monitoring. Interstitial monitoring between the UST system and a secondary barrier immediately around or beneath it may be used, but only if the system is designed, constructed and installed to detect a leak from any portion of the tank that routinely contains product and also meets one of the following requirements:

(1) For secondary containment systems, the sampling or testing method must be able to detect a release through the inner wall in any portion of the tank that routinely contains product:

1. Continuously, by means of an automatic leak sensing device that signals to the operator the presence of any regulated substance in the interstitial space; or
2. Monthly, by means of a procedure capable of detecting the presence of any regulated substance in the interstitial space.
3. The interstitial space shall be maintained and kept free of liquid, debris or anything that could interfere with leak detection capabilities.

~~NOTE: The provisions outlined in the Steel Tank Institute’s “Standard for Dual Wall Underground Storage Tanks” may be used as guidance for aspects of the design and construction of underground steel double-walled tanks.~~

(2) For UST systems with a secondary barrier within the excavation zone, the sampling or testing method used can detect a ~~release-leak~~ between the UST system and the secondary barrier:

1. The secondary barrier around or beneath the UST system consists of artificially constructed material that is sufficiently thick and impermeable (at least 10-6 cm/sec for the regulated substance stored) to direct a release to the monitoring point and permit its detection;
2. The barrier is compatible with the regulated substance stored so that a ~~release-leak~~ from the UST system will not cause a deterioration of the barrier allowing a release to pass through undetected;
3. For cathodically protected tanks, the secondary barrier must be installed so that it does not interfere with the proper operation of the cathodic protection system;
4. The groundwater, soil moisture, or rainfall will not render the testing or sampling method used inoperative so that a ~~release-leak~~ could go undetected for more than 30 days;
5. The site is assessed to ensure that the secondary barrier is always above the groundwater and not in a 25-year flood plain, unless the barrier and monitoring designs are for use under such conditions; and
6. Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

(3) For tanks with an internally fitted liner, an automated device can detect a ~~release-leak~~ between the inner wall of the tank and the liner, and the liner is compatible with the substance stored.

ITEM 94. Insert a new paragraph 135.5(4)“h” and reletter the current paragraph “h” to “i”:

h. Statistical inventory reconciliation. Release detection methods based on the application of statistical principles to inventory data that tests for the loss of product must meet the following requirements:

- (1) Use a leak threshold that does not exceed one-half the minimum detectible leak rate; and
- (2) The statistical test must be able to detect at least a 0.2 gallon per hour leak rate from any portion of the tank that routinely contains product; and
- (3) The report by the SIR company must be a quantitative result with a calculated leak rate and includes the leak threshold (leak rate at which a leak is declared), the calculated leak rate (leak rate calculated from the inventory records) and minimum detectable leak rate (minimum leak rate that can be determined from the inventory records).

1. A "Pass" means that the calculated leak rate for the data set is less than the leak threshold and the minimum detectable leak rate is less than or equal to the certified performance standard;

2. A "Fail" means the calculated leak rate for the data set is equal to or greater than the leak threshold;

3. An "inconclusive" means the minimum detectable leak rate exceeds the certified performance standard and the calculated leak rate is less than the leak threshold. If for any other reason the test result is not a "pass" or "fail" the result is "inconclusive";

(3) Owners and operators must notify the department in accordance with rule 135.6 when a monthly SIR report of "fail" occurs or two consecutive inconclusive results occur.

(4) Owners and operators must assure the SIR analytical results are complete and available to them for review within two weeks after the last day of monthly data set collection. The reports must be available to the department upon request.

(5) The statistical inventory reconciliation method must be certified by a third party and meet US EPA testing procedures in Standard Test Procedures for Evaluating Leak Detection Methods: Statistical Inventory Reconciliation Methods (SIR) (EPA /530/UST-90/007) March 1990.

ITEM 95. Amend subrule 135.5(5) paragraphs "a", "b" and "c" as follows:

a. *Automatic line leak detectors.* Methods which alert the operator to the presence of a leak in pressurized piping by restricting or shutting off the flow of regulated substances through piping or triggering an audible or visual alarm may be used only if they detect leaks of 3 gallons per hour at 10 pounds per square inch line pressure within one hour. An annual test of the operation of the leak detector must be conducted in accordance with ~~the manufacturer's requirements~~ 135.5(1)"a".

b. *Line tightness testing.* A periodic test of piping may be conducted only if it can detect a 0.1 gallon-per-hour leak rate at one and one-half times the operating pressure. The line leak detection method must be certified by a third party and meet US EPA testing procedures in Standard Test Procedures for Evaluating Leak Detection Methods: Pipeline Leak Detection Methods (SIR) (EPA /530/UST-90/007) March 1990.

c. *Applicable tank methods.* Except as described in 135.5(2)"a"(1), any ~~Any~~ of the methods in 135.5(4)"e" through ~~"h"~~"i" may be used if they are designed to detect a release from any portion of the underground piping that routinely contains regulated substances.

ITEM 96. Amend subparagraph 135.5(5)"d" (1) subparagraph "1" as follows:

1. ~~Continuously~~ Continuously, by means of an automatic leak sensing device that signals to the operator the presence of any regulated substance in the interstitial space or containment sump; or

ITEM 97. Amend subrule 135.5(6) paragraphs "a" and "b" as follows:

a. All written performance claims pertaining to any release detection system used, and the manner in which these claims have been justified or tested by the equipment manufacturer or installer, must be maintained for five years, or for another reasonable period of time determined by the department, from the date of installation. Records of site assessments required for vapor monitoring under 135.5(4)"e"(6) and groundwater monitoring under 135.5(4)"f"(7) must be maintained for as long as the methods are used. Records of site assessments must be signed by a professional engineer or professional geologist, or equivalent licensed professional with experience in environmental engineering, hydrogeology, or other relevant technical discipline acceptable to the department;

b. The results of any sampling, testing, or monitoring must be maintained for at least one year, or for another reasonable period of time determined by the department, ~~except that the results of tank tightness testing conducted in accordance with 135.5(4)"c" must be retained until the next test is conducted; and~~ as follows:

(1) The results of tank tightness testing conducted in accordance with 135.5(4)“c” must be retained until the next test is conducted; and

(2) The results of annual operation tests conducted in accordance with 135.3(1)“a”(3) must be maintained for three years. At a minimum, the results must list each component tested, indicate whether each component tested meets criteria in 135.3(1)“a”(3) or needs to have action taken, and describe any action taken to correct an issue; and

(3) The results of tank tightness testing, line tightness testing, and vapor monitoring using a tracer compound placed in the tank system conducted in accordance with 567-135.5(4)“g” must be retained until the next test is conducted; and

ITEM 98. Amend subrule 135.6(1) paragraphs “b” and “c” as follows:

b. Unusual operating conditions observed by owners and operators (such as the erratic behavior of product dispensing equipment, the sudden loss of product from the UST system, ~~or~~ an unexplained presence of water in the tank), or liquid in the interstitial space of secondarily contained systems, ~~unless system equipment is found to be defective but not leaking, and is immediately repaired or replaced; and:~~

(1) The system equipment or component is found not to be releasing regulated substances to the environment;

(2) Any defective system equipment or component is immediately repaired or replaced; and

(3) For secondarily contained systems, except as provided for in 135.5(4)“g”(2)(6), any liquid in the interstitial space not used as part of the interstitial monitoring method (for example, brine filled) is immediately removed.

c. Monitoring results from a release detection method required under 135.5(2) and 135.5(3) that indicate a release may have occurred unless:

(1) The monitoring device is found to be defective, and is immediately repaired, recalibrated or replaced, and additional monitoring does not confirm the initial result; ~~or~~

(2) The leak is contained in the secondary containment and:

1. Except as provided for in 135.5(4)“g”(2)(6), any liquid in the interstitial space not used as part of the interstitial monitoring method (for example, brine filled) is immediately removed, and

2. Any defective system equipment or component is immediately repaired or replaced;

(3) In the case of inventory control, a second month of data does not confirm the initial result or the investigation determines no release has occurred: or.

(4) The alarm was investigated and determined to be a non-release event (for example, from a power surge or caused by filling the tank during release detection testing).

ITEM 99. Amend paragraph 135.6(3)“a” as follows:

a. System test. Owners and operators must conduct tests (according to the requirements for tightness testing in 135.5(4)“c” and 135.5(5)“b”) or, as appropriate, secondary containment testing described in 135.4(4)“d”). ~~that determine whether a leak exists in that portion of the tank that routinely contains product, or the attached delivery piping or both.~~

(1) The test must determine whether:

1. A leak exists in that portion of the tank that routinely contains product, or the attached delivery piping, or

2. A breach of either wall of the secondary containment has occurred.

(4)(2) If the system test confirms a leak into the interstice or a release, owners ~~Owners~~ and operators must repair, replace, ~~or~~ upgrade, or close the UST system. ~~and~~ In addition, owners and operators must begin corrective action in accordance with rule 567—135.9(455B) if the test results for the system, tank, or delivery piping indicate a ~~leak~~ release exists.

~~(2)~~(3) Further investigation is not required if the test results for the system, tank, and delivery piping do not indicate a ~~leak-release~~ exists and if environmental contamination is not the basis for suspecting a release.

~~(3)~~(4) Owners and operators must conduct a site check as described in paragraph “b” of this subrule if the test results for the system, tank, and delivery piping do not indicate a ~~leak-release~~ exists but environmental contamination is the basis for suspecting a release.

ITEM 100. Amend subrule 137.7(5) first paragraph as follows:

135.7(5) Free product assessment and removal. The free product assessment and removal requirements in this chapter are primarily concerned with a regulated substance that is present as a light nonaqueous phase liquid (LNAPL) in a monitoring well, boring, excavation, or other location at a thickness of more than 0.01 feet. At sites where investigations under 135.7(3) “a”(6) indicate 0.01 ft. or more of free product, owners and operators must immediately initiate a free product recovery assessment and submit a report in accordance with paragraph “d” and initiate interim free product removal while continuing, as necessary, any actions initiated under 135.7(2) to 135.7(4), or preparing for actions required under 567—135.8(455B) to 567—135.12(455B). Owners and operators must immediately begin interim free product removal by bailing or by installation and maintenance of passive skimming equipment until an alternative removal method is required by or approved by the department. A certified groundwater professional must initially determine the frequency of bailing and proper installation and maintenance of the skimming equipment based on a determination of the recharge rate of the free product. The department may approve implementation of this interim removal process by persons not certified as groundwater professionals. For approval a certified groundwater professional must submit (1) sufficient documentation establishing that the bailing or skimming system has been adequately designed and tested, and (2) a written plan for regular maintenance, reporting and supervision by a certified groundwater professional. Interim free product recovery reports must be submitted to the department on a monthly basis and on forms provided by the department. In meeting the requirements of this subrule, owners and operators must:

ITEM 101. Amend paragraph 135.7(5) “d” subparagraphs (9) and (10) and add new paragraph (11) as follows:

(9) Free product plume definition and map. The extent of free product ~~in groundwater~~ must be assessed. If monitoring wells are used to define the free product plume, the ~~The~~ number and location of wells and separation distance between the wells used to define the ~~free-product~~ plume must be based on the receptors present and the site hydrology and geology. A minimum of five monitoring wells are required to construct the plume map. The boundary of the plume may be determined by linear interpolation consistent with the methods described in 135.10(2) “f”(3). If the groundwater professional can adequately define the plume using other technology as approved by the ~~specified in department guidance,~~ fewer than five wells may be used to define the boundary of the plume. ~~the boundary of the plume may be determined by the linear interpolation consistent with the methods described in 135.10(2) “f”(3); and~~

(10) The estimated volume of free product present, how the volume was calculated, recoverable volume and estimated recovery time; and

(11) Identification of all water lines, regardless of construction material, within the area of free product. A water line shall be considered within the area of free product if it is located within the boundary of the free product plume as defined by wells unless it can be demonstrated that no LNAPL exists within 10 feet (horizontally or vertically) of the water line and the LNAPL is not migrating nor is likely to migrate. Water lines within the area of free product must be relocated unless there is no other option and the department has approved an alternate plan of construction. See 135.12(3) “c”.

ITEM 102. Amend paragraph 135.7(5)"f" as follows:

f. Termination of free product recovery activities. Owners and operators may propose to the department to terminate free product recovery activities when significant amounts of hydrocarbons are not being recovered. The department will consider proposals to terminate free product recovery when the amount of product collected from a monitoring well is equal to or less than 0.1 gallon each month for a year unless another plan is approved by the department. When free product activities have been terminated, owners and operators must inspect the monitoring wells monthly for at least a year unless another schedule is approved by the department. The department must be notified and can require free product recovery activities be reinitiated if during the monthly well inspections it is determined the product thickness in a monitoring well exceeds 0.02 foot. The monthly well inspection records must be kept available for review by the department.

ITEM 103. Amend paragraph 135.8(1)"a" as follows:

a. Tier 1. The purpose of a Tier 1 assessment is to identify whether a site ~~sites which do not pose~~ poses an unreasonable risk to public health and safety or the environment based on limited site data. The objective is to determine maximum concentrations of chemicals of concern at the source of a release(s) in soil and groundwater. The Tier 1 assessment assumes worst-case scenarios in which actual or potential receptors could be exposed to these chemicals at maximum concentrations through certain soil and groundwater pathways. The point of exposure is assumed to be the source showing maximum concentrations. Risk-based screening levels (Tier 1 levels) contained in the Tier 1 Look-Up Table have been derived from models which use conservative assumptions to predict exposure to actual and potential receptors. (These models and default assumptions are contained in Appendix A.) If Tier 1 levels are not exceeded for a pathway, that pathway may not require further assessment. If the maximum concentrations exceed a Tier 1 level, the options are to conduct a more extensive Tier 2 assessment, apply an institutional control, or in limited circumstances excavate contaminated soil to below Tier 1 levels. If all pathways clear the Tier 1 levels, it is possible for the site to obtain a no action required classification.

ITEM 104. Amend subrule 135.8(3) as follows:

135.8(3) Chemicals of concern. Soil and groundwater samples from releases of petroleum regulated substances must always be analyzed for the presence of benzene, ethylbenzene, toluene, and xylenes. In addition, if the release is suspected to include any petroleum regulated substance other than gasoline or gasoline blends, or if the source of the release is unknown, the samples must be tested for the presence of Total Extractable Hydrocarbons (TEH). Appendices A and B and department Tier 2 guidance define a method for converting TEH values to a default concentration for naphthalene, benzo(a)pyrene, benz(a)anthracene and chrysene and conversion back to a representative TEH value. These default values must be used in order to apply Tier 2 modeling to these constituents in the absence of accurate laboratory analysis. ~~At Tier 2 and Tier 3, owners and operators have the option of analyzing for these specific constituents and applying them to the specific target levels in Appendices A and B instead of using the TEH conversion method if an approved laboratory and laboratory technique are used.~~

ITEM 105. Amend subrule 135.9(1) as follows:

135.9(1) General. The main objective of a Tier 1 site assessment is to reasonably determine the highest concentrations of chemicals of concern which would be associated with any suspected or confirmed release and an accurate identification of applicable receptors. The potential source of a release, nature of the substance released, site stratigraphy, depth to groundwater, and other

appropriate factors must be considered when selecting the sample types, sample locations, and measurements methods. ~~In addition, the~~ The placement and depth of borings and the construction of monitoring wells must be sufficient to determine the sources of all releases, the vertical extent of contamination, an accurate description of site stratigraphy, and a reliable determination of groundwater flow direction.

ITEM 106. Amend subrule 135.9(1) paragraphs “b” and “c” as follows:

b. Pathway clearance. If contaminant concentrations ~~field data~~ for an individual pathway do not exceed the applicable Tier 1 levels or if a pathway is incomplete, no further action is required to evaluate the pathway unless otherwise specified in these rules. If the contaminant concentrations ~~field data~~ for a pathway exceed the applicable Tier 1 level(s) in the “Iowa Tier 1 Look-up Table,” the response is to conduct further assessment under Tier 2 or Tier 3 unless an effective institutional control is approved. In limited circumstances excavation of contaminated soils may be used as an option to obtain pathway clearance. If further site assessment indicates site data exceeds an applicable Tier 1 level(s) for a previously cleared pathway or the conditions justifying a determination of pathway incompleteness change, that pathway must be reevaluated as part of a Tier 2 or Tier 3 assessment.

c. Chemical group clearance. If concentrations ~~field data~~ for all chemicals of concern within a designated group of chemicals are below the Tier 1 levels, no further action is required as to the group of chemicals unless otherwise specified in these rules. Group one consists of benzene, ethylbenzene, toluene, and xylenes (BTEX). Group two consists of naphthalene, benzo(a)pyrene, benz(a)anthracene and chrysene; TEH default values are incorporated into the Iowa Tier 1 Look-Up Table and Appendix A for group two chemicals.

ITEM 107. Amend paragraph 135.9(7) “e” as follows:

e. Soil gas samples. To establish that the soil gas measurement is representative of the highest expected levels, a groundwater professional must obtain two soil gas samples taken at least two weeks apart. One of the samples should be collected beneath the frost line depth during a seasonal period of lowest groundwater elevation. ~~One of the samples must be taken below the typical frost line depth during a seasonal period of lowest groundwater elevation.~~

ITEM 108. Amend paragraph 135.9(7) “h” as follows:

h. Soil excavation. Excavation of contaminated soils for the purpose of removing soils contaminated above the Tier 1 levels is permissible as an alternative to conducting a Tier 2 assessment. Adequate field screening methods must be used to identify maximum concentrations during excavation. At a minimum, one soil sample must be taken for field screening every 100 square feet of the base and each sidewall. Soil samples must be taken for laboratory analysis at least every 400 square feet of the base and each sidewall of the excavated area to confirm that remaining concentrations are below Tier 1 levels. If the base or a sidewall of the excavation is less than 400 square feet, a minimum of one sample must be analyzed for each sidewall and the base.

ITEM 109. Rescind paragraph 135.9(11) “g”.

ITEM 110. Amend 135.10(1) paragraph “a” as follows:

a. Guidance. The Tier 2 site assessment shall be conducted in accordance with the department’s “Tier 2 Site Assessment Guidance” and these rules. The site cleanup report shall be submitted on forms and in a format prescribed by this guidance. The Tier 2 data analysis shall be performed by using computer software or on-line application developed by the department or by using the computer software’s hard-copy version.

ITEM 111. Rescind subparagraph 135.10(2)"f"(3).

ITEM 112. Amend subparagraphs 135.10(2)"g" and "h" as follows:

g. Modeled simulation line. The simulation line represents the predicted maximum extent of groundwater contamination and distribution of contaminant concentrations between the source(s) and actual or potential receptor locations. The model calculates the simulation line using maximum concentrations at the source(s) and predicting the amount of dispersion and degradation. Modeled data in the simulation line are compared with actual contaminant concentrations ~~field data~~ to verify the predictive validity of the model and to make risk classification decisions.

h. Modeled site-specific target level (SSTL) line. The modeled SSTL line represents acceptable levels of contaminant concentrations at points between and including the source(s) and an applicable point(s) of exposure or other point(s) of compliance (ex. a potential receptor point of exposure). The SSTL line is calculated by assuming an applicable target level concentration at the point(s) of exposure or point(s) of compliance and modeling back to the source to determine the maximum concentrations at the source (SSTL) that must be achieved to meet the target level at the point of exposure or compliance. Comparison of contaminant concentrations from actual samples ~~field data~~ to this SSTL line is used to determine a risk classification and determine appropriate corrective action response.

ITEM 113. Rescind paragraph 135.10(2)"m".

ITEM 114. Amend subrule 135.10(3) paragraphs "a"(2) and "a"(3) as follows:

(2) Granular bedrock. Granular bedrock is bedrock which is determined to act as a granular aquifer and for which monitoring wells do not exist at the source ~~as of August 15, 1996~~. For purposes of this rule, a granular aquifer is one that shows no extraordinary variations or inconsistencies in groundwater elevations across the site, groundwater flow, hydraulic conductivities, or total dissolved solid concentrations among monitoring wells. Although the extent of contamination can be defined in granular bedrock, groundwater transport modeling cannot be used because ~~there are no monitoring wells~~ cannot be installed at the source if soil contamination is present. If soil contamination above a Tier 1 level is not identified or an over-excavation of contaminated soil has successfully removed all soil contamination greater than a Tier 1 level, then monitoring wells can be installed in the source area and the site can be evaluated as exempt granular bedrock.

(3) Exempt granular bedrock. Exempt granular bedrock is bedrock which is determined to act as a granular aquifer as provided in subparagraph (2) and for which monitoring wells exist at the source as of August 15, 1996. Sites in exempt granular bedrock shall be evaluated using ~~the normal regular~~ Tier 1 ~~or and~~ Tier 2 procedures in this rule. Nongranular bedrock is not exempt from this subrule even if groundwater monitoring wells exist at the source.

ITEM 115. Amend paragraph 135.10(3)"b" as follows:

b. Exempt soil pathways. The soil vapor to enclosed space pathway and the soil to plastic water lines pathway shall be assessed under the ~~normal regular~~ Tier 2 procedures in subrules 135.10(7) and 135.10(9) respectively. In all cases, the ~~normal~~ assessment must comply with the policy of avoiding a preferential pathway to groundwater consistent with 135.8(5) and this subrule.

ITEM 116. Amend subparagraph 135.10(3)"g"(2) as follows:

(2) Groundwater well receptor evaluation for granular and nongranular bedrock designations. All drinking and non-drinking water wells within 1,000 feet of the source must be identified and tested for

chemicals of concern. All public water supply systems within one mile of the source must be identified and raw water tested for chemicals of concern. ~~If no drinking water wells are located within 1,000 feet of the source, all the~~ All area within 1,000 feet of the source is considered a potential receptor point of exposure.

ITEM 117. Amend subparagraph 135.10(3)“i”(2) as follows:

(2) High risk classification. A site designated as granular or nongranular bedrock shall be classified high risk for this pathway if the highest groundwater elevation is ~~higher than within~~ three feet ~~below of~~ the bottom of a water line as provided in 135.10(8)“a”(1), risk classification cannot be determined as provided in 567—135.12(455B) due to limitations on placement of monitoring wells, and water lines exist within 200 feet of a monitoring well which exceeds the Tier 1 level.

ITEM 118. Amend subrule 135.10(3) paragraph “j”(1) as follows:

(1) Point of compliance. The monitoring well closest to the surface water body must be used as the point of compliance to evaluate impacts to designated use segments as described in 135.10(10) and for general use segments that fail the visual inspection criteria of 135.10(10)“b.” If the surface water criteria ~~is~~ are exceeded for a designated use segment, an allowable discharge concentration must be calculated and met at the point of compliance. For general use segments failing the visual inspection criteria, the acutely toxic target level must be met at the point of compliance.

ITEM 119. Amend subrule 135.10(3) paragraphs “k”(1) and (2) as follows:

(1) Groundwater ingestion pathway. For high risk sites, where soil exceeds the soil leaching to groundwater Tier 1 level for actual receptors, soil excavation or other active remediation of soils must be conducted in accordance with department guidance to reduce soil concentrations to below the soil leaching Tier 1 level. Corrective action other than monitoring of groundwater is required at sites designated as nongranular bedrock if the actual receptor has been or is likely to be impacted. Corrective action other than monitoring of groundwater is required at sites designated as granular bedrock if the actual receptor has been impacted or the sentry well required by 135.10(3)“g”(4) has been impacted above Tier 1 levels. Acceptable corrective action for impacted or vulnerable groundwater wells may include active remediation, technological controls, institutional controls, well plugging, relocation, and well reinstallation with construction measures sufficient to prevent contaminant infiltration to the well and to prevent formation of a preferential pathway.

(2) Groundwater ingestion pathway high risk monitoring. For high risk sites designated as nongranular or granular bedrock, if the soil concentrations do not exceed the soil leaching to groundwater Tier 1 levels or have been reduced to this level by corrective action, and corrective action of groundwater is not required as in subparagraph (1), these sites shall be subject to groundwater monitoring as provided in paragraph “l.” Corrective action other than monitoring of groundwater is required at sites designated as granular bedrock if groundwater concentrations exceed the applicable target level less than 200 feet from an actual receptor. Reevaluation of the potential for impact to actual receptors is required at sites designated as nongranular bedrock if concentrations from monitoring wells ~~increases~~ increase more than 20 percent of the previous samples.

Item 120. Amend subrule 135.10(3) paragraphs “m”(1) and (2) as follows:

(1) Groundwater in nongranular bedrock designations. Exit monitoring requires that samples from all groundwater monitoring wells must not exceed the applicable target levels for annual sampling for three consecutive years. If soil contamination above a Tier 1 level is not identified or if an over-excavation of contaminated soil has successfully removed all soil contamination greater than a Tier 1

level and monitoring wells are installed in the source area, exit monitoring criteria may be met by two consecutive samples collected at least six months apart; and concentrations in all monitoring wells must be less than the lowest target level.

(2) Groundwater in granular bedrock designations. Exit monitoring must be met in two ways: A monitoring well between the source and the receptor must not exceed applicable target levels for three sampling events, and samples must be separated by at least six months; and the three most recent consecutive groundwater samples from a monitoring well between the source and the receptor with detected levels of contamination must show a steady or declining trend and meet the following criteria: The first of the three samples must be ~~more~~ greater than detection limits, concentrations cannot increase more than 20 percent from the first of the three samples to the third sample; concentrations cannot increase than 20 percent ~~of~~ from the previous sample; and samples must be ~~separated by~~ collected at least six months apart.

ITEM 121. Amend the first paragraph in 135.10(6)“g” as follows:

g. Pathway evaluation and classification. Upon completion of analysis of analytical results of appropriate samples ~~field data~~ and modeled data, the pathway must be classified high risk, low risk or no further action as provided in 567—135.12(455B).

ITEM 122. Amend paragraph 135.10(8)“d” as follows:

d. Pathway classification. Upon completion of analysis of ~~field data~~ analytical results of appropriate samples and modeled data, the pathway must be classified high risk, low risk or no further action as provided in 567—135.12(455B). The water quality inside the water lines is not a criterion for clearance of this pathway.

ITEM 123. Amend paragraph 135.10(9)“d” as follows:

d. Pathway classification. Upon completion of analysis of ~~field data~~ analytical results of appropriate samples, the pathway must be classified high risk, low risk or no further action as provided in 567—135.12(455B). Measurements of water quality inside the water lines may be required, but are not allowed as criteria to clear this pathway.

ITEM 124. Amend subrule 135.10(10) paragraph “e” as follows:

1) Groundwater modeling as provided in 135.10(2) must be used to calculate the projected concentrations of chemicals of concern at the point of compliance. If the modeled concentrations or field data at the point of compliance exceed surface water criteria for designated use segments, an allowable discharge concentration must be calculated. If the projected concentrations and ~~field data~~ actual concentrations at the point of compliance do not exceed surface water criteria, no further action is required to assess this pathway.

2) The department water quality section will calculate the allowable discharge concentration using information provided by the certified groundwater professional on a department form. Required information includes, at a minimum, the site location and a discharge flow rate calculated according to the department’s Tier 2 guidance. The allowable discharge concentration is the target level which must be met adjacent to the surface water body which is the point of compliance.

(3) The target level at the point of exposure/compliance for general use segments subject to evaluation is the acutely toxic levels established by the department under 567—Chapter 61 and 567—subrule 62.8(2). If the modeled concentrations of ~~field data~~ contaminant concentrations at the point of exposure/compliance exceed the acutely toxic levels, modeling must be used to determine site classifications and corrective action in accordance with 567—135.12(455B).

ITEM 125. Amend 135.10(10)"f" as follows:

f. Pathway classification. Upon completion of analysis of ~~field data~~ appropriate samples and modeled data, the pathway must be classified high risk, low risk or no further action as provided in 567—135.12(455B).

(1) For general use segments, as defined in 567—subrule 61.3(1), if the groundwater professional determines there is no sheen or residue present or if the site is not the source of the sheen or residue or if the sheen does not consist of petroleum-regulated substances, no further action is required for assessment of this pathway. If a petroleum-regulated substance sheen is present, the pathway is high risk and subject to classification in accordance with 567—135.12(455B).

(2) For designated use segments, as provided in 567—subrules 61.3(1) and 61.3(5), if projected concentrations of chemicals of concern and ~~field data~~ actual contaminant concentrations at the point of compliance do not exceed the target level adjacent to the surface water, and the groundwater professional determines there is no sheen or residue present, no further action is required for assessment of this pathway.

ITEM 126. Rescind 135.10(11) paragraph "f" and reletter the following paragraphs.

ITEM 127. Amend subrules 135.12(1) and 135.12(2) the first paragraph as follows:

135.12(1) General. 1995 Iowa Code section 455B.474(1)"d"(2) provides that sites shall be classified as high risk, low risk and no action required. Risk classification is accomplished by comparing actual ~~field data~~ contaminant concentrations to the concentrations that are predicted by the use of models. ~~Field data~~ Concentrations must be compared to the simulation model which uses the maximum concentrations at a source and predicts at what levels actual or potential receptors could be impacted in the future. ~~Field data~~ Concentrations must also be compared to the site-specific target level line which assumes a target level concentration at the point of exposure and is used to predict the reduction in concentration that must be achieved at the source in order to meet the applicable target level at the point of exposure. These models not only predict concentrations at points of exposure or a point of compliance at a source but also predict a distribution of concentrations between the source and the point of exposure which may also be points of compliance. The comparison of ~~field data~~ contaminant concentrations with these distribution curves primarily is considered for purposes of judging whether the modeled data is reasonably predictive and what measures such as monitoring are prudent to determine the reliability of modeled data and actual field data.

For the soil vapor to enclosed space and soil to water line pathways, there are no horizontal transport models to use for predicting future impacts. Therefore, for these pathways, sites are classified as high risk, low risk or no action required based on specified criteria below and in 567—135.10(455B).

135.12(2) High risk classification. Except as provided below, sites shall be classified as high risk if, for any pathway, any actual ~~field data~~ exceeds ~~contaminant concentrations exceed~~ the site-specific target level line at any point for an actual receptor.

ITEM 128. Amend subrule 135.12(3) paragraphs "a", "b", adopt a new paragraph "c" and reletter the following paragraphs:

a. Objectives. The primary objectives of corrective action in response to a high risk classification are both short- term and long-term. The short-term goal is to eliminate or reduce the risk of exposure at actual receptors which have been or are imminently threatened with exposure above target levels. The longer term goal is to prevent exposure to actual receptors which are not currently impacted or are not imminently threatened with exposure. To achieve these objectives, it is the intent of these rules that

concentrations of applicable chemicals of concern be reduced by active remediation to levels below the site-specific target level line at all points between the source(s) and the point(s) of exposure as well as to undertake such interim corrective action as necessary to eliminate or prevent exposure until concentrations below the SSTL line are achieved. If it is shown that concentrations at all applicable points have been reduced to below the SSTL line, the secondary objective is to establish that the ~~field data~~ actual chemical concentrations can be reasonably relied upon to predict future conditions at points of exposure rather than reliance on the modeled data. Reliance on ~~field data~~ actual contaminant concentrations is achieved by establishing through monitoring that concentrations within the contaminant plume are steady or declining. Use of institutional control and technological controls may be used to sever pathways or control the risk of receptor impacts.

b. For the groundwater to water line and soil to water line receptors, these objectives are achieved by active remediation, replacement or relocation of high risk water line receptors in the actual and modeled plume areas. ~~from areas within the actual plume plus some added site specific distance to provide a safety factor to areas outside the site specific target level line. In areas of free product, all water lines regardless of construction material must be relocated unless there is no other option and the department has approved an alternate plan of construction.~~ If water lines and gaskets are replaced in an area of contamination, they must be replaced with water line materials and gasket materials of appropriate construction in accordance with current department standards set forth in 567—Chapter 43 and with no less than nitrile or Viton gaskets or as otherwise approved by the department. ~~If a service line is replaced and remains in a contaminated area, a backflow preventer shall be installed to prevent impacts to the larger water distribution system.~~

c. In areas of free product, all water lines regardless of construction material must be relocated unless there is no other option and the department has approved an alternate plan of construction. Refer to 135.7.5(d)11. If a service line remains in the area of LNAPL, a backflow preventer shall be installed to prevent impacts to the larger water distribution system.

ITEM 129. Amend subrule 135.12(4) paragraphs “a”, “b” and “c” as follows:

a. For actual and potential receptors, if the modeled data and the actual ~~field data~~ concentrations are less than the site-specific target level line, and any of the ~~field data~~ concentrations are greater than the simulation line.

b. For potential receptors, if any actual ~~field data~~ concentrations exceed the site-specific target level line at any point.

c. For the soil leaching to groundwater ingestion pathway where modeling predicts that the Tier 1 levels for potential receptors would be exceeded in groundwater at applicable potential receptor points of compliance and the soil concentration exceeds the soil leaching to groundwater site-specific target level but groundwater concentrations are currently below the Tier 1 level for potential receptors, the site shall be initially classified as low risk and subject to monitoring under 135.12(5)“d”(2). If at any time during the three-year monitoring period, groundwater concentrations exceed the Tier 1 level for potential receptors, the site shall be classified as high risk requiring soil remediation in accordance with 135.12(3)“~~e.d.~~”

ITEM 130. Amend subrule 135.12(6) paragraphs “b”, “c”, “d” and “e” as follows:

b. For initial classification, groundwater pathways shall be classified as no action required if the ~~field data is~~ contaminant concentrations are below the site-specific target level line and all it or less than the simulation line, and confirmation monitoring has been completed successfully. Confirmation sampling for groundwater is a second sample which confirms the no action required criteria.

c. A groundwater pathway shall be reclassified from high risk to no action required if all ~~field data is~~ concentrations are below the site-specific target level and if exit monitoring criteria have been met.

Exit monitoring criteria means that the three most recent consecutive groundwater samples from all monitoring wells must show a steady or declining trend and the most recent samples are below the site-specific target level. Other criteria include the following: The first of the three samples for the source well and transition well must be more than detection limits; concentrations cannot increase more than 20 percent from the first of the three samples to the third sample; concentrations cannot increase more than 20 percent of the previous sample; and samples must be separated by at least six months.

d. A low risk site shall be reclassified as “no action required” if ~~field analytical~~ data is below the site-specific target level and if exit monitoring criteria have been met pursuant to 135.12(6) “c” or if the site has maintained less than the applicable target level for four consecutive sampling events separated by at least six months as defined in the monitoring plan regardless of exit monitoring criteria and guidance.

e. Confirmation sampling for soil gas and indoor vapor. For the enclosed space pathways, confirmation sampling is required to reasonably establish that the soil gas and indoor vapor samples represent the highest expected levels. A groundwater professional must obtain two samples taken at least two weeks apart. One of the samples should be collected beneath the frost line depth during a seasonal period of lowest groundwater elevation. ~~One of the samples must be taken during a seasonal period of lowest groundwater elevation and soil gas samples must be taken below the frost line.~~

ITEM 131. Amend paragraph 135.12(9)“d” as follows:

d. Review. A CADR submitted by a groundwater professional shall be accepted by the department and shall be primarily relied upon by the department to determine the corrective action response requirements of the site. However, if within 90 days of receipt of a CADR, the department identifies material information in the CADR that is inaccurate or incomplete, and if based upon information in the report the appropriate corrective action response cannot be reasonably determined by the department based on industry standards, the department may reject the report and require modifications. If the department does not reject the report within 90 days of receipt, the report shall be deemed approved as submitted unless changes to the report are requested by the groundwater professional. The department shall work with the groundwater professional and the owner or operator to correct any materially inaccurate information or to obtain the additional information necessary to determine the appropriate corrective action response as soon as practicable. ~~However, from July 1, 2010, through June 30, 2011, the department shall have 120 days to notify the certified groundwater professional when a report is not accepted based on material information that is found to be inaccurate or incomplete.~~

ITEM 132. Amend the first paragraph in 135.12(10)“b” as follows:

b. No further action certificate. When the no action required site classification has been determined based on a recommendation of the certified groundwater professional as provided in 135.9(11), 135.10(11) and ~~135.12(12)~~135.12(6) (see also 2009 Iowa Code Supplement section 455B.474(1)“h”(1) and (3) as amended by 2010 Iowa Acts, House File 2531, section 174), the department shall issue a no further action certificate.

ITEM 133. Amend subrule 135.12(11) as follows:

135.12(11) Expedited corrective action. An owner, operator or responsible party of a site at which a release of regulated substance is suspected to have occurred may carry out corrective actions at the site so long as the department receives notice of the expedited cleanup activities ~~within prior to~~ 30 calendar days of their commencement; the owner, operator, or responsible party complies with the provisions of these rules; and the corrective action does not include active treatment of groundwater

other than:

- a. As previously approved by the department; or
- b. Free product recovery pursuant to subrule 135.7(5).
- c. ~~Soil overexcavation—over-excavation.~~ When undertaking ~~overexcavation—over-excavation~~ of contaminated soils, adequate field screening methods must be used to identify maximum concentrations during excavation. At a minimum one soil sample must be taken for field screening every 100 square feet of the base and each sidewall. Soil samples must be taken for laboratory analysis at least every 400 square feet of the base and each sidewall of the excavated area to confirm remaining concentrations are below Tier 1 levels. If the excavation is less than 400 square feet, a minimum of one sample must be analyzed for each sidewall and the base. The owner or operator must maintain adequate records of the excavation area to document compliance with this procedure unless submitted to the department and must provide it to the department upon request.

ITEM 134. Amend subrule 135.14 as follows:

567—135.14(455B) Action levels. The following corrective action levels apply to petroleum-regulated substances as regulated by this chapter. These action levels shall be used to determine if further corrective action under 567—135.6(455B) through 567—135.12(455B) or 567—135.15(455B) is required as the result of tank closure sampling under 135.15(3) or other analytical results submitted to the department. The contaminant concentrations must be determined by laboratory analysis as stated in 567—135.16(455B). Final cleanup determination is not limited to these contaminants. The contamination corrective action levels are:

	Soil (mg/kg)	Groundwater (ug/L)
Benzene	0.54	5
Toluene	3.2	1,000
Ethylbenzene	15	700
Xylenes	52	10,000
Total Extractable Hydrocarbons	3,800	1,200
<u>Total Extractable Hydrocarbons - Waste Oil</u>		<u>400</u>

ITEM 135. Rescind Subrule 135.15(1) and adopt the following new subrule in lieu thereof:

135.15(1) Temporary closure.

a. UST systems not meeting either the performance standards in 135.3(1) for new UST systems or the upgrading requirements in 135.3(2) by December 22, 1998 must be permanently closed according to 135.15(2). The tanks cannot be brought back into use.

b. When an UST system in compliance with new tank standards is temporarily closed, owners and operators must:

(1) Continue operation and maintenance of corrosion protection in accordance with 135.4(2);

(2) Continue operation and maintenance of any release detection in accordance with rule 135.5(455B) unless the system is empty. The UST system is empty when all materials have been

removed using commonly employed practices. No more than 2.5 centimeters (1 inch) of residue, or 0.3 percent by weight of the total capacity of the UST system may remain in the system;

(3) Comply with Rules 135.6(455B) to 135.12(455B) if a release is suspected or confirmed;

(4) Maintain financial responsibility (i.e. insurance) in accordance with Chapter 136. If at any time financial responsibility coverage is or will be terminated, a site check for contamination must be completed before coverage is terminated. A site check must use the closure-in-place sampling procedures in 135.15(3)“b” and “d” or the Tier 1 site assessment in 135.9. If the tanks are located in a contaminated area with active monitoring and remediation, the tank owner may request the department to waive the site check providing justification.

(5) Continue to pay the tank management fee required in 135.3(5).

(6) Continue to have compliance inspections conducted as required in 135.20.

c. When an UST system is closed for three months or more, an owner must submit DNR 542-1311 Notification of Temporary Closure Form to the department. To certify all temporary closure requirements are completed, a licensed installer or compliance inspector must inspect the system. Complete the requirements in paragraph “b” above for temporary closure and certify the following:

(1) The UST system is empty of all regulated substances.

(2) Vent lines open and functioning;

(3) All other piping, pumps, accesses, and ancillary equipment are capped and locked.

(4) For lined tanks, provide a copy of the last internal inspection.

(5) Provide proof of financial responsibility (i.e. insurance) according to 567--Chapter 136.

(6) Provide certification the corrosion protection system is being maintained in accordance with 135.4(2). Include certification electricity is being maintained to operate the impressed current cathodic protection system if present.

d. When a tank system is closed for more than twelve months, the owner must permanently close the tank system as required in the State Fire Code (3404.2.13.1.3 International Fire Code). The department may approve an extension if the owner can document the underground storage tank system is in compliance with the department’s temporary closure requirements,, a site check for contamination has been conducted and the State Fire Marshal has issued a variance to allow the tank system to remain temporarily closed.

e. A tank system cannot be temporarily closed for more than two years. After two years of temporary closure, a tank system must be permanently closed.

f. Prior to returning a temporarily closed tank back into service, the owner or operator must provide the following documentation and the department’s return to service form signed by a licensed installer. The tank system cannot be operated or receive fuel until current tank tags have been issued.

(1) Tanks were temporarily closed in accordance with [IAC 135.15(1)]

(2) Where applicable, corrosion protection has been maintained continuously in accordance with [IAC 135.4(2)]. Provide inspection log of cathodic protection system and inspection report of cathodic protection system by an Iowa licensed corrosion tester.

(3) For lined tanks, provide a lining and tank integrity inspection report.

(4) Precision tightness test (0.1 gph) results conducted on tanks in accordance with [IAC 135.5].

(5) Precision tightness test (0.1 gph) results on lines in accordance with [IAC 135.5]. This includes piping used for remote fills.

(6) Function test (3.0 gph) results of mechanical or electronic leak detectors conducted in accordance with [IAC 135.5] NOTE: not required on confirmed “safe suction” delivery lines.

(7) Tank and piping leak detection is operational and in good condition.

(8) Secondary containment is installed where necessary in accordance with [IAC 135.3(9)].

(9) Spill containment, overfill prevention and all containment sumps are in good condition and operating in accordance with [IAC 135.4(1)] Tightness tests conducted within the last twelve months must

be provided for secondary containment of tank, piping, sumps, under dispenser containment and spill containment.

(10) Copy of the financial responsibility (UST insurance) mechanism in accordance with [IAC 136]

(11) An Iowa licensed installer certifies UST systems and equipment are installed correctly, in good operable condition and meets all regulatory requirements for startup and operation.

(12) Copies of Class A and Class B operator training certificates.

(13) Change of ownership form (if the UST facility was sold)

ITEM 136. Add the following sentence in the rule heading for 135.15(2).

135.15(2) *Permanent closure and changes-in-service.* Permanent closure of an underground storage tank must be conducted by an Iowa licensed tank remover. Closure sampling must be conducted by a certified Iowa Groundwater Professional.

ITEM 137. Amend paragraph 135.15(2)"b" as follows:

b. To permanently close a tank or piping, owners and operators must empty and clean them by removing all liquids and accumulated sludge. All tanks taken out of service permanently must also be ~~either removed from the ground, or filled with an inert solid material~~ or closed in place by a method approved by the department. Piping must either be removed from the ground or have the ends plugged with an inert solid material.

ITEM 138. Rescind "NOTE" in subrule 135.15(2) and adopt the following new "Note", in lieu thereof:

NOTE: The following cleaning and closure procedures may be used to comply with subrule 135.15(2):

- American Petroleum Institute Recommended Practice RP 1604, "Closure of Underground Petroleum Storage Tanks";
- American Petroleum Institute Standard 2015, "Safe Entry and Cleaning of Petroleum Storage Tanks", Planning and Managing Tank Entry From Decommissioning Through Recommissioning";
- American Petroleum Institute Recommended Practice 2016, "Guidelines and Procedures for Entering and Cleaning Petroleum Storage Tanks";
- American Petroleum Institute Recommended Practice RP 1631, "Interior Lining and Periodic Inspection of Underground Storage Tanks," may be used as guidance for compliance with this section;
- National Fire Protection Association Standard 326, "Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair"; and
- National Institute for Occupational Safety and Health Publication 80-106, "Criteria for a Recommended Standard...Working in Confined Space" may be used as guidance for conducting safe closure procedures at some hazardous substance tanks.]

ITEM 139. Amend paragraph 135.15(3)"a" as follows:

135.15(3) Assessing the site at closure or change-in-service.

a. Before permanent closure or a change-in-service is completed, owners or operators must measure for the presence of a release where contamination is most likely to be present at the UST site. This soil and groundwater closure investigation must be conducted or supervised by a groundwater professional certified under 567—Chapter 134, Part A, unless the department in its discretion grants an exemption and provides direct supervision of the closure investigation. In selecting the sample types, sample locations, and measurement methods, owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to groundwater, and other

factors appropriate for identifying the presence of a release.

At UST sites with a history of petroleum storage, soil and groundwater samples shall in every case be analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) with each compound reported separately in accordance with 567—135.16(455B). If there has been a history or suspected history of petroleum storage other than gasoline or gasoline blends (i.e., all grades of diesel fuels, fuel oil, kerosene, oil and mineral spirits), or such storage history is unknown or uncertain, soil and groundwater samples shall also be analyzed for total extractable hydrocarbons in accordance with 567—135.16(455B).

All such samples shall be collected separately and shipped to a laboratory certified under ~~567—Chapter 42, Part C 567—Chapter 83~~, within 72 hours of collection. Samples shall be refrigerated and protected from freezing during shipment to the laboratory.

When a UST is removed from an area of confirmed contamination, the department may waive closure sampling if written documentation is submitted with the closure notification. Documentation should include laboratory analytical reports and a site map showing tank and piping locations along with contamination plume and sampling locations.

ITEM 140. Amend paragraph 135.15(3)“b” the first paragraph:

b. For all permanent tank and piping closures or changes-in-service, at least one water sample must be taken from the first saturated groundwater zone via a monitoring well or borehole except as provided in paragraph “g.” The well or borehole must be located downgradient from and as close as possible to the excavation but no farther away than 20 feet. At some tank and piping closures a minimum of one monitoring well may not be sufficient to represent a release where it most likely to be present. An additional groundwater monitoring well or wells may be necessary.

ITEM 141. Amend paragraph 135.15(3)“c” as follows:

c. For permanent closure by tank removal, the departmental guidance document entitled “Underground Storage Tank Closure Procedures for Tank and Piping Removal” must be followed. The minimum number of soil samples that must be taken depends on the tank size and length of product piping. Samples must be taken at a depth of 1 to 2 feet beneath the tank fill area below the base of the tank along the tank’s centerline. Soil samples must also be taken at least every 10 feet (unless alternate sampling is approved by the department) along the product piping at a depth of 1 to 2 feet beneath the piping fill area below the piping.

If water is present above the floor of the excavation at the time of UST removal, samples of native soils must be taken from the walls of the excavation at the soil-water interface at all four walls of the UST excavation with preference given to areas with obvious staining.

If sands or other highly permeable soils are encountered, alternative sampling methods may be required.

If contamination is suspected or found in any area within the excavation (i.e., sidewall or bottom), a soil sample must be taken at that location.

The numbers of samples required for tanks are as follows:

Nominal Tank Capacity (gallons)	Number of Samples	Location on Centerline
1,000 or less	1	center of tank
1,001 - 8,000	2	1/3 from ends

Nominal Tank Capacity (gallons)	Number of Samples	Location on Centerline
8,001 - 30,000	3	5 feet from ends and at center of tank
30,001 - 40,000	4	5 and 15 feet from ends
40,001 and more	5	5 and 15 feet from ends and at center

ITEM 142. Amend paragraph 135.15(3)"d" as follows:

d. For closing a tank in place by filling with an inert solid material or for a change-in-service, the departmental guidance document entitled "Underground Storage Tank Closure for Filling in Place" must be followed. The minimum number of soil borings required for sampling depends on the size of the tank and the length of the product piping. Soil samples must be taken within 5 feet of the sides and ends of the tank at a depth of 2 to 4 feet below the base of the tank, but outside the backfill material, at equal intervals around the tank. Soil samples must also be taken at least every 10 feet (unless alternate sampling is approved by the department) along the product piping at a depth of 1 to 2 feet beneath the piping fill area below the piping. If sands or other highly permeable soils are encountered, alternative sampling methods may be required.

The minimum numbers of soil borings and samples required are as follows:

Nominal Tank Capacity (gallons)	Number of Samples	Location of Samples
6,000 or less	4	1 each end and each side
6,001 - 12,000	6	1 each end and 2 each side
12,001 or more	8	1 each end and 3 each side

ITEM 143. Amend 135.15(4) as follows:

135.15(4) ~~Overexcavation~~ Over-excavation of contaminated soils at closure

a. If contaminated soils are discovered while assessing a site at closure in accordance with 135.15(3), owners and operators may ~~overexcavate~~ over-excavate up to one foot of the contaminated soils surrounding the tank pit. The contamination and ~~overexcavation~~ over-excavation must be reported to the department in accordance with the requirements of 135.6(4)"a" prior to backfilling the excavation. If excavation is limited to one foot of contaminated soils, a soil sample shall be taken and laboratory analyzed in accordance with 567—135.16(455B) from the area showing the greatest contamination. Any ~~overexcavation~~ over-excavation

of contaminated soils beyond one foot of contaminated soils is considered expedited corrective action and must be conducted by a certified groundwater professional in accordance with the procedures in 135.12(11).

b. Excavated contaminated soils must be properly disposed in accordance with 567—Chapters 100, 101, 102, 120, and 121, Iowa Administrative Code.

c. A report must be submitted to the department within 30 days of completion of the laboratory analysis. The report must include the requirements of 135.15(3)"e" and a dimensional drawing showing the depth and area of the excavation prior to and after ~~overexcavation~~ over-excavation. The area of contamination must be shown.

ITEM 144. Amend subrule 135.15(7) as follows:

135.15(7) *Applicability to pre-1974 USTs.* The closure provisions of rule 567—135.15(455B) are not applicable to USTs which have been out of operation ~~as of prior to~~ January 1, 1974. For purposes of this subrule, out of operation means that no regulated substance has been deposited into or dispensed from the tanks and that the tanks do not currently contain an accumulation of regulated substances other than a de minimus amount as provided in 135.15(1)“a.”

Owners and operators or other interested parties are not required to submit documentation that USTs meet the exemption conditions and may rely on this subrule as guidance. However, should a question arise as to whether USTs meet the exemption, or owners and operators or other interested parties request acknowledgment by the department that USTs are exempt, they must submit an affidavit on a form provided by the department. The affiant must certify that based on a reasonable investigation and to the best of the affiant’s knowledge, the USTs were taken out of operation prior to January 1, 1974, the USTs have not contained a regulated substance since January 1, 1974, and the USTs do not currently contain an accumulation of regulated substances.

If the department has a reasonable basis to suspect a release has occurred, the release investigation and confirmation steps of ~~subrule 135.8(1)~~ rule 135.6 and the corrective action requirements as provided in 567—135.8(455B) to ~~567—135.8~~ 567—135.12 shall apply.

ITEM 145. Amend subrule 135.16(1) as follows:

135.16(1) *General.* When ~~having soil or water analyzed~~ analyzing for petroleum or hazardous substances, owners and operators of UST systems must use a laboratory certified under 567—Chapter 83. In addition they must ensure that all ~~soil and groundwater~~ samples are properly preserved and shipped within 72 hours of collection to a laboratory certified under 567—Chapter 83, ~~for UST petroleum analyses.~~ This rule provides acceptable analytical procedures for petroleum substances and required information that must be provided in all laboratory reports.

ITEM 146. Adopt new subrule 135.16(6) as follows:

135.16(6) Analytical methods for methyl tertiary-butyl ether (MTBE). Analysis of water for MTBE must be conducted by a laboratory certified under 567—Chapter 83 for petroleum analyses.

a. Sample preparation and analysis shall be by:

(1) GC/MS version of OA-1, “Method for Determination of Volatile Petroleum Hydrocarbons (gasoline),” revision 7/27/93, University Hygienic Laboratory, Iowa City, Iowa; or

(2) U.S. Environmental Protection Agency Method 8260B, SW-846, “Test Methods for Evaluating Solid Waste,” Third Edition.

b. Laboratories performing the analyses must run standards for MTBE on a routine basis, and standards for other possible compounds like ethyl tertiary-butyl ether (ETBE), tertiary-amyl methyl ether (TAME), di-isopropyl ether (DIPE), and tertiary-butyl alcohol (TBA) to be certain of their identification should they be detected.

c. Laboratories must run a method detection limit study and an initial demonstration of capability for MTBE. These records must be kept on file.

d. The minimum detection level for MTBE in water is 15 ug/L.

ITEM 147. Amend subrule 135.17(2) as follows:

135.17(2) *Individual claims.* The financial ability of individual owners and operators of USTs, with or without an active business (including but not limited to sole proprietorships and general partnerships), ~~shall may~~ be evaluated using the most current version of INDIPAY developed by the U.S. Environmental Protection Agency “Individual Ability to Pay Guidance” document dated June 19, 1992, and generally

accepted principles of financial analysis. This guidance is only one tool the department may use in evaluating claims of financial inability.

ITEM 148. Amend subrule 135.17(3) as flows:

135.17(3) *Corporate claims.* The financial ability of corporate owners and operators of USTs ~~shall~~ may be evaluated using the ~~June 1992~~ most current version of “ABEL” developed by the U.S. Environmental Protection Agency and generally accepted principles of financial analysis. This guidance is only one tool the department may use in evaluating claims of financial inability.

ITEM 149. Rescind subrules 138.18(1) through 138.18(4) and renumber the subrule.

ITEM 150. Amend rule 135.19 as follows and rescind subrule 135.19(5):

567—135.19(455B) Analyzing for methyl tertiary-butyl ether (MTBE) ~~in soil and groundwater samples.~~

135.19(1) *General.* The objective of analyzing for MTBE is to determine its presence in ~~soil and~~ water samples collected as part of investigation and remediation of contamination ~~at for~~ underground storage tank facilities.

135.19(2) *Required MTBE testing.* ~~Soil and water~~ Water samples must be analyzed for MTBE when collected for risk-based corrective action as required in rules 567—135.8(455B) through 567—135.12(455B). These sampling requirements include but are not limited to: ~~Tier 2 and Tier 3 assessments where groundwater ingestion pathway evaluation and subsequent monitoring is required.~~

a. ~~Risk-based corrective action (RBCA) evaluations required for Tier 1, Tier 2, and Tier 3 assessments and corrective action design reports.~~

b. ~~Site monitoring.~~

c. ~~Site remediation monitoring.~~

135.19(3) MTBE testing not required. These following samples do not require analysis for MTBE
~~Soil and water samples for the following actions are not required to be analyzed for MTBE:~~

a. Closure sampling under rule 567—135.15(455B) ~~unless Tier 1 or Tier 2 sampling is being performed.~~

b. Site checks under subrule 135.7(3) ~~unless Tier 1 or Tier 2 sampling is being performed.~~

c. If prior analysis ~~at a site~~ under 135.19(2) has not shown MTBE present ~~in soil or groundwater.~~

d. If the department determines MTBE analysis is no longer needed at a site.

135.19(4) *Reporting.* The analytical data must be submitted in a format prescribed by the department.

ITEM 151. Amend subrule 135.20(1) as follows:

135.20(1) The owner or operator must have the UST system inspected and an inspection report submitted to the department by a UST compliance inspector certified by the department under 567—Chapter 134. An initial compliance site inspection shall be conducted ~~no later than December 31, 2007~~ between within two years after new tank installation. All subsequent compliance site inspections conducted after the initial compliance site inspection ~~for the 2008-2009 biennial period~~ shall be conducted within 24 months of the prior compliance site inspection. Compliance site inspections must be separated by at least six months.

ITEM 152. Adopt the following new rule 135.21:

567-135.21(455B) UST Systems with Field-Constructed Tanks and Airport Hydrant Fuel Distribution Systems

135.21(1) General requirements.

a. Implementation of requirements. Owners and operators must comply with the requirements of this part for UST systems with field-constructed tanks and airport hydrant systems as follows:

(1) For UST systems installed on or before [the effective date of rules], the requirements are effective according to the following schedule:

Requirement	Effective Date
Upgrading UST systems; general operating requirements; and operator training	[3 years after effective date of rules]
Release detection	[3 years after effective date of rules]
Release reporting, response, and investigation; closure; financial responsibility and notification (except as provided in paragraph (b) of this section)	Effective date of the rule

(2) For UST systems installed after [effective date of rules] the requirements apply at installation.

b. All owners of previously deferred UST systems must submit a registration form provided by the Iowa DNR. Owners and operators of UST systems must demonstrate financial responsibility at the time of submission of the registration form.

c. Except as provided in 567-135.21(2), owners and operators must comply with the requirements of 567-135.1 through 135.20 and 567-Chapter 136(455B).

d. In addition to the codes of practice listed in 135.3(1), owners and operators may use military construction criteria, such as Unified Facilities Criteria (UFC) 3-460-01, *Petroleum Fuel Facilities*, when designing, constructing, and installing airport hydrant systems and UST systems with field-constructed tanks.

135.21(2) Additions, exceptions, and alternatives for UST systems with field-constructed tanks and airport hydrant systems.

a. *Exception to piping secondary containment requirements.* Owners and operators may use single walled piping when installing or replacing piping associated with UST systems with field-constructed tanks greater than 50,000 gallons and piping associated with airport hydrant systems. Piping associated with UST systems with field-constructed tanks less than or equal to 50,000 gallons not part of an airport hydrant system must meet the secondary containment requirement when installed or replaced.

b. *Upgrade requirements.* Not later than [3 years after effective date of rules], airport hydrant systems and UST systems with field-constructed tanks where installation commenced on or before [effective date of rules] must meet the following requirements or be permanently closed pursuant to 567-135.15(455B).

c. *Corrosion protection.* UST system components in contact with the ground that routinely contain regulated substances must meet one of the following:

(1) Except as provided in paragraph (a) of this section, the new UST system performance standards for tanks at 135.3(1)"a" and for piping at 135.3(1)"b"; or

(2) Be constructed of metal and cathodically protected according to a code of practice developed by a nationally recognized association or independent testing laboratory and meets the following:

1. Cathodic protection must meet the requirements of 135.3(1)"a"(2)(3) and (4) for tanks, and 135.3(1)"a"(2), (3) and (4) for piping.

2. Tanks greater than 10 years old without cathodic protection must be assessed to ensure the tank is structurally sound and free of corrosion holes prior to adding cathodic protection. The assessment must be by internal inspection or another method determined by the implementing agency to adequately assess the tank for structural soundness and corrosion holes.

Note to paragraph (c): The following codes of practice may be used to comply with this paragraph:

- NACE International Standard Practice SP 0285, “External Control of Underground Storage Tank Systems by Cathodic Protection”;
- NACE International Standard Practice SP 0169, “Control of External Corrosion on Underground or Submerged Metallic Piping Systems”;
- National Leak Prevention Association Standard 631, Chapter C, “Internal Inspection of Steel Tanks for Retrofit of Cathodic Protection”; or
- American Society for Testing and Materials Standard G158, “Standard Guide for Three Methods of Assessing Buried Steel Tanks”.
- American Society for Testing and Materials Standard G158, “Standard Guide for Three Methods of Assessing Buried Steel Tanks”.

d. Spill and overfill prevention equipment. To prevent spilling and overfilling associated with product transfer to the UST system, all UST systems with field-constructed tanks and airport hydrant systems must comply with new UST system spill and overfill prevention equipment requirements specified in 135.3(1)”c”.

e. Walkthrough inspections. In addition to the walkthrough inspection requirements in 135.4(12), owners and operators must inspect the following additional areas for airport hydrant systems at least once every 30 days if confined space entry according to the Occupational Safety and Health Administration (see 29 CFR part 1910) is not required or at least annually if confined space entry is required and keep documentation of the inspection according to 135.4(12)”d.

(1) Hydrant pits – visually check for any damage; remove any liquid or debris; and check for any leaks, and

(2) Hydrant piping vaults – check for any hydrant piping leaks.

f. Release detection. Owners and operators of UST systems with field-constructed tanks and airport hydrant systems must begin meeting the release detection requirements described in this subpart not later than [three years after effective date of rule].

(1) Methods of release detection for field-constructed tanks. Owners and operators of field-constructed tanks with a capacity less than or equal to 50,000 gallons must meet the release detection requirements in 567-135.5(455B)

(2) of this part. Owners and operators of field-constructed tanks with a capacity greater than 50,000 gallons must meet either the requirements in 567-135.5(455B) (except 135.5(3)”e” and “f”) must be combined with inventory control as stated below) of this part or use one or a combination of the following alternative methods of release detection:

1. Conduct an annual tank tightness test that can detect a 0.5 gallon per hour leak rate;
2. Use an automatic tank gauging system to perform release detection at least every 30 days that can detect a leak rate less than or equal to one gallon per hour. This method must be combined with a tank tightness test that can detect a 0.2 gallon per hour leak rate performed at least every three years;
3. Use an automatic tank gauging system to perform release detection at least every 30 days that can detect a leak rate less than or equal to two gallons per hour. This method must be combined with a tank tightness test that can detect a 0.2 gallon per hour leak rate performed at least every two years;
4. Perform vapor monitoring (conducted in accordance with 135.5(4)”e” for a tracer compound placed in the tank system) capable of detecting a 0.1 gallon per hour leak rate at least every two years;
5. Perform inventory control (conducted in accordance with Department of Defense Directive 4140.25; ATA Airport Fuel Facility Operations and Maintenance Guidance Manual; or equivalent procedures) at least every 30 days that can detect a leak equal to or less than 0.5 percent of flow-through; and

- Perform a tank tightness test that can detect a 0.5 gallon per hour leak rate at least every two years; or

- Perform vapor monitoring or groundwater monitoring (conducted in accordance with 135.5(4)"e" or "f", respectively, for the stored regulated substance) at least every 30 days; or

(3) Methods of release detection for piping. Owners and operators of underground piping associated with field-constructed tanks less than or equal to 50,000 gallons must meet the release detection requirements in 567-135.5(455B). Owners and operators of underground piping associated with airport hydrant systems and field-constructed tanks greater than 50,000 gallons must follow either the requirements in 567-135.5(455B) (except 135.5(4)"e" and "f" must be combined with inventory control as stated below) of this part or use one or a combination of the following alternative methods of release detection:

1. Perform a semiannual or annual line tightness test at or above the piping operating pressure in accordance with the table below.

Maximum Leak Detection Rate Per Test Section Volume		
Test Section Volume (Gallons)	Semiannual Test - Leak Detection Rate Not To Exceed (Gallons Per Hour)	Annual Test - Leak Detection Rate Not To Exceed (Gallons Per Hour)
< 50,000	1.0	0.5
≥ 50,000 to < 75,000	1.5	0.75
≥ 75,000 to < 100,000	2.0	1.0
≥ 100,000	3.0	1.5

Piping segment volumes ≥ 100,000 gallons not capable of meeting the maximum 3.0 gallon per hour leak rate for the semiannual test may be tested at a leak rate up to 6.0 gallons per hour according to the following schedule:

Phase In For Piping Segments ≥ 100,000 Gallons In Volume	
First test	Not later than [3 years after effective date of rules] (may use up to 6.0 gph leak rate)
Second test	Between [effective date of rules] and [3 years after effective date of rules] (may use up to 6.0 gph leak rate)
Third test	Between [3 years after effective date of rules] and [4 years after effective date of rules] (must use 3.0 gph for leak rate)
Subsequent tests	After [4 years after effective date of rules], begin using semiannual or annual line testing according to the Maximum Leak Detection Rate Per Test Section Volume table above

2. Perform vapor monitoring (conducted in accordance with 135.5(4)"e" for a tracer compound placed in the tank system) capable of detecting a 0.1 gallon per hour leak rate at least every two years;

3. Perform inventory control (conducted in accordance with Department of Defense Directive 4140.25; ATA Airport Fuel Facility Operations and Maintenance Guidance Manual; or equivalent procedures) at least every 30 days that can detect a leak equal to or less than 0.5 percent of flow-through; and

- Perform a line tightness test (conducted in accordance with paragraph (i) of this section using the leak rates for the semiannual test) at least every two years; or

- Perform vapor monitoring or groundwater monitoring (conducted in accordance with 135.5(4)"e" or "f," respectively, for the stored regulated substance) at least every 30 days; or

4. Another method approved by the department if the owner and operator can demonstrate that the method can detect a release as effectively as any of the methods allowed in paragraphs (i) through

(iii) of this section. In comparing methods, the department shall consider the size of release that the method can detect and the frequency and reliability of detection.

g. Recordkeeping for release detection. Owners and operators must maintain release detection records according to the recordkeeping requirements in 135.5(6).

h. Applicability of closure requirements to previously closed UST systems. When directed by the implementing agency, the owner and operator of an UST system with field-constructed tanks or airport hydrant system permanently closed before [effective date of rule] must assess the excavation zone and close the UST system in accordance with 567-135.15(455B) if releases from the UST may, in the judgment of the implementing agency, pose a current or potential threat to human health and the environment.

ITEM 153. Amend subrule 136.1(4) as follows:

136.1(4) The requirements of this chapter do not apply to owners and operators of farm or residential tanks of 1,100 gallons or less capacity installed prior to July 1, 1987 or any UST system described in 567—paragraph 135.1(3)“b” or “c” 135.1(3)“c”(1), (3) or (4).

ITEM 154. Amend the following definitions in rule 136.3:

“*Accidental release*” means any sudden or nonsudden release of petroleum arising from operating an underground storage tank that results in a need for corrective action and/or compensation for bodily injury or property damage neither expected nor intended by the tank owner or operator.

“*Financial reporting year*” means the latest consecutive 12-month period for which any of the following reports used to support a financial test is prepared:

1. A 10-K report submitted to the SEC;
2. An annual report of tangible net worth submitted to Dun and Bradstreet; or
3. Annual reports submitted to the Energy Information Administration or the Rural ~~Electrification Administration~~ Utilities Service.

ITEM 155. Rescind the definition of “*Petroleum marketing firms*” from rule 136.3.

ITEM 156. Amend 136.6(2)2”d” as follows:

d. The owner or operator, and/or guarantor, must either:

(1)File financial statements annually with the U.S. Securities and Exchange Commission, the Energy Information Administration, or the Rural ~~Electrification Administration~~ Utilities Service; or

(2)Report annually the firm’s tangible net worth to Dun and Bradstreet, and Dun and Bradstreet must have assigned the firm a financial strength rating of 4A or 5A.

ITEM 157. Amend Chapter 136 by replacing “Rural Electrification Administration” with “Rural Utilities Service” throughout the chapter.

ITEM 158. In Rule 136(4), amend the first paragraph of the “Letter from Chief Financial Officer as follows:

I am the chief financial officer of [insert: name and address of the owner or operator, or guarantor]. This letter is in support of the use of [insert: “the financial test of self-insurance,” and/or “guarantee”] to demonstrate financial responsibility for [insert: “taking corrective action” and/or “compensating third parties for bodily injury and property damage”] caused by [insert: “sudden accidental releases” ~~and/or~~ or “nonsudden accidental releases”] in the amount of at least [insert: dollar amount] per occurrence and [insert: dollar amount] annual aggregate arising from operating (an)

underground storage tank(s).

ITEM 159. Amend subrule 136.9(2) the fifth un-numbered paragraph as follows:

Now, therefore, the conditions of the obligation are such that if the Principal shall faithfully [“take corrective action, in accordance with rule 567—135.7(455B) and the Director of the Iowa Department of Natural Resources instructions for,” and/or “compensate injured third parties for bodily injury and property damage caused by” either “sudden accidental releases” or “nonsudden accidental releases” or “sudden and nonsudden”] accidental releases arising from operating the tank(s) identified above, or if the Principal shall provide alternate financial assurance, as specified in 567—Chapter 136, within 120 days after the date the notice of cancellation is received by the Principal from the Surety(ies), then this obligation shall be null and void; otherwise it is to remain in full force and effect.

ITEM 160. Amend subrule 136.10(2) paragraph (2) in the “Irrevocable Letter of Credit” as follows:

(2) your signed statement reading as follows: “I certify that the amount of the draft is payable pursuant to regulations issued under authority of Subtitle I of the ~~Resource Conservation and Recovery Act of 1976~~ Solid Waste Disposal Act, as amended.”

ITEM 161. Adopt the following new subrule 136.13(8):

136.13(8) If the local government owner or operator fails to obtain alternate assurance within 150 days of finding that it no longer meets the requirements of the bond rating test or within 30 days of notification by the Director of the implementing agency that it no longer meets the requirements of the bond rating test, the owner or operator must notify the Director of such failure within 10 days.

ITEM 162. Amend subrule 136.15(15) the first unnumbered paragraph of the “Letter from the Chief Financial Officer” as follows:

I am the chief financial officer of [insert: name and address of the owner or operator]. This letter is in support of the use of the local government financial test to demonstrate financial responsibility for [insert: “taking corrective action” and/or “compensating third parties for bodily injury and property damage”] caused by [insert: “sudden accidental releases” ~~and/or or~~ “nonsudden accidental releases” or accidental releases] in the amount of at least [insert: dollar amount] per occurrence and [insert: dollar amount] annual aggregate arising from operating (an) underground storage tank(s).

ITEM 163. Amend rule 136.22 as follows:

567—136.22(455B) Release from the requirements. An owner or operator is no longer required to maintain financial responsibility under this chapter for an underground storage tank after the tank has been ~~properly permanently~~ closed or, if corrective action is required, after corrective action has been completed and the tank has been ~~properly~~ permanently closed as required by rule 567—135.15(455B) or undergoes a change-in-service.

ITEM 164. Amend subrule 134.3(6) as follows:

134.3(6) Exemption from examination. The department may provide for an exemption from the certification examination requirements for a professional engineer registered pursuant to Iowa Code chapter 542B upon submission of sufficient proof of exemption to the Iowa ~~comprehensive petroleum underground storage tank fund board as provided in Iowa Code section 455G.18(8)~~ DNR. The person must be qualified in the field of geotechnical, hydrological, environmental, groundwater, or hydrogeological engineering. A groundwater professional exempted under this provision must meet the continuing education requirements of subrule 134.3(5).

ITEM 165. Amend 134.4(1) as follows:

134.4(1) General policy. It is the policy of the department to enforce standards of professional and ethical conduct which are generally accepted within the professions which qualify persons for certification in Iowa as groundwater professionals. The department intends to rely on written standards of professional and ethical conduct and competency which are applicable to persons who qualify for certification by virtue of certification by or membership in a professional organization ~~or state licensure as provided in Iowa Code section 18(2).~~

ITEM 166. Amend paragraph 134.4(3)"f" as follows:

f. Material misstatement of facts or misrepresentation of information required to be provided pursuant to Iowa Code ~~chapters 455G and chapter 455B~~, division IV, part 8.

ITEM 167. Amend the sentence following rule 135.4 as follows:

These rules are intended to implement Iowa Code section ~~455G.18~~ 455B.10.

ITEM 168. Amend rule 134.7 as follows:

567—134.7(455B) Certification requirements for UST compliance inspectors. A person retained by an owner or operator of a UST facility for the purpose of establishing compliance with ~~the annual~~ an UST compliance inspection required by the department under 567—135.20(455B) must hold a current UST compliance inspector certification issued by the department. Inspector certification will be issued by the department only to a person who:

1. ~~Is an~~ Has met and continues to meet Iowa-licensed UST installer or installation inspector requirements under ~~591—Chapter 15 134.24 or 134.27~~, except that the requirement as set forth under ~~591—subrule 15.3(4) 134.23~~ shall not be applicable to a certified UST compliance inspector.
2. Attends the required training approved by the department as provided in 567—134.10(455B).
3. Achieves a passing grade of 85 percent on a certification examination administered or approved by the department as provided in 567—134.10(455B).
4. Submits an accurate and complete application.
5. Is not found to be in violation of this chapter and has not had a certification revoked by the department pursuant to 567—134.16(455B) ~~or by the underground storage tank fund board pursuant to 591—Chapter 15.~~

ITEM 169. Rescind rule 134.8.

ITEM 170. Rescind subrule 134.10(1) and adopt the following **new** subrule:

134.10(1) Prior to taking the compliance inspector examination, the applicant must attend the department's inspector training course or designated approved course.

ITEM 171. Amend subrule 134.11(3) as follows:

134.11(3) Minimum inspections. In order to renew certification, an inspector must have conducted at least ~~25-12~~ compliance inspections ~~each year in the past 2 years~~.

ITEM 172. Amend subrule 134.14(3) as follows:

134.14(3) Any evidence of violations or deficiencies observed during the inspection must be photographed using a digital camera ~~with at least a 1-2 megapixel resolution~~. The digital photographs must be submitted as part of the electronic inspection report and maintained by the inspector for five years as part of the inspector's records.

ITEM 173. Amend paragraph 134.16(1)"e" as follows:

e. The revocation of a certification as an installer or installation inspector under ~~591—Chapter 15~~ rules 134.24 or 134.27.

ITEM 174. Amend rule 134.18 as follows:

567—134.18(455B) Applicability of Part C. ~~All persons and companies that are currently licensed under the former board rules in rescinded 591—Chapter 15 shall be subject to Part C of this chapter. All persons conducting underground storage tank installations and installation inspections as provided in 567—subparagraph 135.3(1)"e"(2) and installers, installation inspectors, liners, testers, and removers shall be licensed by the department in accordance with Part C of this chapter. Service technicians as defined in rule 567—134.17(455B) are exempt from licensure under Part C of this chapter.~~

ITEM 175. Amend rule 134.19 the first paragraph as follows:

567—134.19(455B) General licensing requirements. Applications for licenses shall be submitted on a form provided by the department along with all required supporting documentation. ~~Existing licenses as of [insert the effective date of these amendments] and new licenses shall expire December 31, 2010. Subsequently, licenses~~ Licenses shall be issued and renewed on a two-year calendar basis, beginning January 1, ~~2011~~ on the odd numbered years. All applicants must be at least 18 years of age. The applicant shall not have been issued a certificate of noncompliance from the child support recovery unit.

ITEM 176. Amend subrule 134.19(1) as follows:

134.19(1) Licensing classifications. A separate license will be issued for:

- a. UST installers ~~and installation inspectors~~;
- b. UST removers;
- c. UST testers;
- d. Cathodic protection testers; ~~and~~
- e. UST liners; and
- f. Installation inspectors.

ITEM 177. Amend subrule 134.19(7) the first paragraph as follows:

134.19(7) Continuing education. Each person licensed under Part C of this chapter shall complete a department-approved refresher course every two years, except for licensed cathodic protection testers. Cathodic protection testers shall maintain NACE or STI certification or another certification approved by the department. Beginning with the first application for license renewal, each UST professional shall provide evidence to the department, prior to submission of the application for renewal, that at least ~~12–8~~ credit hours of department-approved continuing education have been satisfactorily completed since the last license was issued or renewed. The department may limit the number of credits granted for similar courses during a renewal period. The requirement for continuing education may be met only by those continuing education offerings which have been approved by the department.

ITEM 178. Rescind subrule 134.25(2) and replace with the following:

134.25(2) Documentation of work performed.

1. A copy of the test results shall be attached to DNR Form 148 when testing is done in connection with a new installation or the upgrading of an existing underground storage tank system.
2. Spill protection and overfill prevention equipment must be tested for proper operation per

manufacturer requirements or per PEI/RP1200. Test results must be documented and submitted to the department together with Form 148.

3. Under dispenser containment (UDC) and sump containment must be tested per manufacturer requirements or per PEI/RP1200. Test results must be documented and submitted to the department together with registration Form 148.

4. A functionality status report of each interstitial or sump sensor must be conducted and the results submitted to the department together with the registration Form 148.

5. A precision test is required when the system is covered and is ready to be placed into service; a volumetric, non-volumetric, or vacuum test may be used as a method for testing the system and a U.S. EPA approved test may be used for testing the lines. Systems used for leak detection or monitoring (such as statistical inventory reconciliation, vapor or water monitoring wells, or tracer-type tests) shall not be acceptable as a precision test at the completion of the installation of a new system or the upgrading of an existing system. Automatic in-tank gauging may be acceptable if third-party U.S. EPA approval as a precision test has been received for testing tanks.

6. Test results shall identify the tanks, sumps, and UDCs tested, the test method employed, and the results of the test. Test results shall be dated and signed by the licensed tester who performed the tests.

7. The original DNR Form 148 with attachments shall be mailed to the department.

ITEM 179. Amend rule 134.27 the first paragraph as follows:

567—134.27(455B) *Installation inspectors.* In addition to the licensing requirements listed under rule 134.19(455B), an installation inspector shall provide documentation of at least ~~one year~~ two years of experience with underground storage installations, testing, inspecting, or design; documentation of manufacturer certification for past work; and proof of current certification for future work. An engineer who intends to apply for licensure as an installation inspector and who has met the requirements in Iowa to be a registered professional engineer (P.E.) may be exempt from the educational requirement so long as UST installation is in the scope of the engineer's P.E. license and regular practice as provided for in rule 567—134.19(455B). Engineers, however, are not exempt from fulfilling the examination requirement.

ITEM 180. Amend subrule 135.27(3) as follows:

134.27(3) *Inspection required.* When concrete is cut or excavation is required that could affect the integrity or operation of the UST system or when a component that routinely contains product is installed, replaced or repaired, one inspection is required. This inspection shall occur when the component is uncovered and replaced or repaired and during testing when required (i.e. piping replacement or repair) but before operation recommences. Whenever secondary containment, such as UDC or sump, is installed, at least one inspection is required after the equipment is installed and before the system is backfilled.